Volume XX. No. 4 APRIL, 1929

Canadian Public Health Journal

18th Annual Meeting
Montreal, June 18th, 19th, 20th, 1929

Published by the
CANADIAN PUBLIC HEALTH ASSOCIATION
Editorial and Business Offices:
40 ELM STREET, TORONTO 2

CANADIAN PUBLIC HEALTH JOURNAL

VOL. XX April, 1929 No. 4

The Authority of the Medical Officer of Health in His Community*

ARTHUR WILSON, M.D., C.M.

Medical Officer of Health, Saskatoon.

ANY remarks of a critical nature in this paper are not made with the intention of fault finding, but only for the purpose of drawing attention to some of the weaknesses in public health work that may, through time, be remedied. My relations with the provincial department of health and my own board of health are pleasant—never better.

From the standpoint of service the medical officer of health has the most important public position in the community; it also entails great responsibilities. Usually the councils of municipalities appoint a legally qualified practitioner to hold this office during their pleasure. In a general way, every provincial legislature in Canada requires the local medical officer of health to perform all duties imposed upon him by the public health act and provincial regulations of his province, and, in addition to these, the by-laws and resolutions made under the authority of his municipal act. In other words, the provincial government makes the laws and issues the orders, but the serious responsibility of administering them belongs to the municipality and to the medical officer of health. In addition to these legal or police powers the medical officer of health is expected to be a leader and somewhat of an authority in his community to initiate and promote measures of health reform and education.

May we note, briefly, a few factors affecting the health officer's powers:

1. Support of authority. 2. Security of tenure of office. 3. Satisfactory remuneration. 4. Opportunities for self improvement to render greater and finer service.

Is there an ideal health organization? Professors Winslow and Harris of Yale School of Medicine, after a careful analysis of the activities of the health departments of the 83 large cities of the United States, presented a report upon their findings and outlined an ideal health department for a city of 100,000 population (published in The American Journal of Public Health, November 1922). They state, "It seems to us first

**Presented at the Annual Meeting of the Canadian Public Health Association, Winnipeg, October, 1928.*

of all desirable that the health officer should have the support of a board of health or advisory council which should advise in regard to the general policies of the department, approve the budget prepared by the health officer and, when legally permissible, promulgate the sanitary code. *The Board should not in our judgment exercise any direct administrative authority.*" That does not mean the medical officer of health should be an autocrat, but he should have authority if he is to be held responsible for public health administration. No doubt there are many local factors to be considered before making any dogmatic statement, but this would appear to be the ideal organization.

It is an important point in the status of a medical officer of health* whether the chief authority rests with himself to enforce the law, or whether that power is invested in the board of health. When the various provincial governments come to delegate authority to the local medical officer of health there appears to be some reticence. They have no compunction about giving power to a city magistrate to deprive persons of their liberty and to confine them in an institution for very minor offences, but to give a medical officer of health the necessary support to require large property owners to make immediate improvements to their unsanitary property is another matter.

Section 19 of our (Saskatchewan) Public Health Act reads, "The medical health officer shall be the chief municipal health and sanitary official, and shall perform all duties imposed upon him by the regulations of the Minister, and the fact that similar duties are or may be by statute imposed upon boards of health shall not relieve a medical health officer from the performance of his duties." This is definite, and I believe it was the intention that the medical officer of health should have authority to perform his duties without undue restrictions, but in practice it does not work that way. The municipal council appoints, and may at any time dismiss the medical officer of health without any notice or without any reason. He has no right of action against the municipality for wrongful dismissal and shall be entitled to remuneration up to date of his resignation or dismissal only; that is, conditions might arise whereby a health officer would be dismissed by the municipal council for doing his duty, a duty imposed by the provincial law but unpopular with the public and the council. The result is that, in spite of the wording of section 19, the health officer's powers are very much restricted if he wishes to retain his office.

Furthermore, in Saskatchewan the council of a municipality shall be its board of health, but in cities the council may appoint from amongst its members a committee to act in that capacity. Such a board of health does not always act in the best interest of the health of the citizens, and for the following reasons given in detail:

1. The number of members on a council (in cities the number is 11) is much too large for prompt, efficient and uniform action in actual practice, and if a committee from the members is chosen it is very difficult to get meetings, so much time is taken up with other committee meetings.

**I am discussing chiefly city medical officers of health, and especially in the Province of Saskatchewan, unless otherwise mentioned.*

2. The composition of the council changes each year. The old members are just becoming of some assistance and really constructive in their ideas when they must give place to new members with their fresh ideas and sometimes destructive criticisms, which only too often have been inspired by some disgruntled citizen who probably has been requested to comply with the health law. New members frequently think that, because the council have the authority to appoint and dismiss a medical officer of health, they have the authority to interfere with the administration; this the public health act does not warrant. They are in the position of an employer, and although they may have less information regarding health matters than the ordinary citizen on the street, it is rather a delicate position for the employee to educate his employer. In other words, the new members of the council no sooner get acquainted with the workings of the health department than they then leave office. The progress in health reform is altogether too slight for the amount of energy expended by the medical officer of health.

3. Local petty politics interfere with the council's activity as a good board of health. Health regulations at no time are popular. They are prohibitive, restraining, often preventing a man from going into some profitable business to the detriment of his neighbour's health unless he does comply with the regulations which put him to what he considers useless trouble and expense. Such citizens, often with plausible story, will lobby aldermen to champion their cause in the council chamber. The alderman may never take the trouble to get the facts of the case or the health officer's view of the matter. On the other hand, the other citizens whom the medical health officer is trying to protect, are somewhat indifferent and satisfied to leave him to enforce the law for which he is paid. They do not insist that their aldermen stand by the law. The result is that, if the medical officer of health discharges his duty, he is open to immediate and unfair criticism usually finding its way into the press, and, if he does not do his duty, he will ultimately get into trouble. "He is damned if he does and damned if he doesn't." The support he should get from his board of health is lacking, and, because aldermen depend upon the good opinion and votes of their supporters for their position on the council, they are inclined to interfere with health administration. They are also very susceptible to the influence of those who are dissatisfied or those who seek privileges. Permit me to give an instance: Some years ago in a certain city in Saskatchewan the city council ordered a certain house to be placarded as unsanitary because the premises were unclean, dilapidated and lacked sanitary plumbing, and were altogether unfit for habitation. The occupant was notified to vacate. In a few months the owner returned from spending a pleasant winter in California, lobbied the aldermen, appeared before the council and, in spite of the fact that no improvement had been made to the property, they ordered the placards to be removed and the owner was permitted to re-rent his property as it was. Such irregularities are a detriment to the progress of good government and make a laughing-stock of public health work.

4. The council as a board of health frequently orders reports upon useless inspections which, if left to the discretion of the medical officer of health, would never be made. The time could be saved for more important work.

5. Health matters are frequently administered by the council and given publicity in such a way that it is really a hindrance to health work instead of being an assistance.

6. The medical officer of health is not a member of the board and has no voice in matters, but must simply carry out the council's instructions as well as the instructions of the provincial department of health, which are sometimes incompatible.

These are a few of the reasons why a municipal council in our province makes a poor board of health. Aldermen with no training experience or education usurp the powers that should belong to the medical officer. I understand that British Columbia and Manitoba have almost the same local health organizations as Saskatchewan. In other provinces local boards of health are organized in some other fashion, but in no province in Canada is the medical officer of health the chief responsible official with an advisory committee or board as advised by Winslow.

With reference to security of tenure of office, we have seen that in British Columbia, Manitoba and Saskatchewan there is none. Ontario has made some real progress in this respect. No medical officer of health shall be removed from office except on a two-thirds vote of the whole council and with the consent and approval of the Minister of public health before whom cause shall be shown for dismissal. This is only fair. If a health officer is to administer the provincial law in his municipality he should at least have the legal protection of the provincial department to do his duty.

Considering the services the medical officer of health renders, he is one of the most poorly paid public officials, and that applies not only to the medical officer of health but to all the members of his staff. It will always be so as long as the council has the power to appoint and dismiss him, as mentioned, and to pay his salary, because aldermen are not apt to increase a salary which some of the ratepayers think is already too large. There are medical officers of health in Western Canada earning less in their municipalities than the undertakers. I have not been able to find any legislation pertaining to this grievance except in the Public Health Act of Ontario. Section 53 provides that where the medical officer of health claims that the salary paid him by the municipal corporation is not fair and reasonable he may make application to the county or district court judge who may, after hearing the case, order a fair and reasonable remuneration to be paid. It may not be a pleasant thing to do to go into court about one's salary, but the very fact that this law is in the Public Health Act of Ontario would, I should think, have a beneficial effect. Much credit is due the medical officer of health of the city of Hamilton for his courage in establishing a precedent in this respect.

The medical officer of health should be well qualified to give out reliable information on all matters pertaining to health. Most health officials place a greater value on public health education than on any other duty performed by the medical officer of health. In spite of that fact there is little or no provision made for his keeping abreast with the rapid advance of knowledge in his profession. No matter how good his qualifications may be when he first takes office, he must at least occasionally see work in other departments if he will make the most of himself and give his best service. Good books and magazines help a great deal, but there should be opportunities of mixing with other health officials to get stimulus and new ideas. For this purpose the department of education in the city of Saskatoon provides one year out of every ten for public school teachers, and the university a sabbatical year for professors. Why could there not be similar provision made for the medical officer of health? The Sun Life Assurance Company has rendered a valuable public service this year in providing an opportunity for the superintendents of sanatoria to visit Europe for the purpose of studying tuberculosis work there.

For a free interchange of ideas among health officers the Ontario Public Health Act has made splendid provision in section 42, by requiring medical officers of health to attend an annual conference, the expense of which must be borne by the municipality. In Saskatchewan a start is being made, giving municipalities the power to send their medical officers of health if they wish.

It is only reasonable to expect that the older provinces of Canada should be more advanced in the solution of all their public health problems than those of the West. However, Canada has a long way to go yet when we consider Sir Arthur Newsholme's statement regarding this matter which is: "Public health work must be made practicable as a career; and to this end reasonable security of tenure of office must be given to competent officers, and their remuneration must compare not unfavourably with the earnings of physicians in private practice."

You may have a well organized provincial department of health, the best of legislation in the world on your books, but if you do not have well trained medical officers of health with the necessary authority and security of tenure of office to enforce your legislation you cannot get good results. To repeat, the provincial department may plan, direct and supervise work, but the work must be done in each municipality by the local health officer, who must have ability, tact and training. He is the important official if the work is to be carried out. One municipality with a poorly organized health department is a weak link and not only injures itself but is a danger to other municipalities. It is reasonable to suppose that if there were less interference, more support, greater security of the position with reasonable remuneration and opportunities for self improvement, far quicker and better results would be obtained in health work, preventing some of the serious outbreaks of communicable disease (which are, at present, a disgrace) lessening the amount of general sickness and lowering the death rate.

The Control of Public Milk Supplies*

R. H. MURRAY, C.E.

Director, Division of Sanitation,
Department of Public Health, Saskatchewan

SO much has been said and written by so many authorities on the subject of milk control that it is difficult, unless one comes fresh from some phase of research, to say anything which is not already known to students of the subject.

At a representative gathering of health officials such as this, each one specializing in his own particular branch of health activity, it is perhaps desirable that my remarks should take the form of a general review of present day measures of milk control, rather than that they should deal in too much detail with any one aspect of the problem. By so doing, a wider and more general discussion may result which will bring out points of interest which are not touched on in this short paper.

If some of the remarks which follow do not coincide with the experience of officials who are here representing all parts of the Dominion, allowance will perhaps be made for the fact that every province and municipality has its own educational methods, its local legislation, its means of enforcement and inspection, and its appropriation for milk protection, and the angle from which any individual views the milk control situation must of necessity be influenced by conditions which he has observed in his own province.

At the annual covention of this Association held three years ago in Montreal a report was presented from a committee appointed to make a study of milk problems. This Committee, with the late Dr. M. M. Seymour as Chairman and nine public health officials from all parts of Canada as its members, communicated with all the provinces and cities of the Dominion before presenting its report, and the co-operation, which was so willingly given, revealed how many and real were the problems still unsolved in milk control.

In seeking to control the sanitary quality of milk supplied to the public our efforts must be directed along four definite lines:—

First—Education of the public and the producer and all persons concerned in the handling and processing of milk.

Second—The provision of standards and the application of tests for these standards, in order that the degree of safety of the supply may be established.

Third—Legislation embodying these standards and its enforcement.

Fourth—Inspection of all conditions which may affect the safety of the milk from the cow to the consumer.

*Presented at the Seventeenth Annual Meeting, Canadian Public Health Association, Winnipeg, October, 1928.

EDUCATION

Of the Public

Education and propaganda must not only accompany but precede any effort to control successfully the public or the individual. The days of enacting laws which are not based on the wishes of an informed public are past. The support and co-operation of the bulk of the people must be assured before we can legislate.

And so it is with milk control. Having decided that a certain measure is requisite to protect the public health we must forestall opposition by bringing the public to our way of thinking. Take milk pasteurization as an example. There is perhaps no sector of the health line which has required a more insistent and sustained bombardment of education and propaganda before the objective could be gained, and even when the barrage of facts has been lifted and the opposition thought to be overcome, health officials have on occasions had to fall back with the pasteurization position untaken.

Of the Profession

To educate the public is not enough: we must educate the people by whom the public are guided and whom they quote: amongst others, the practising physician. Rightly or wrongly the actions or opinions of the medical man in private practice are taken by the man in the street to represent what is best in the interests of health. A raw milk distributor who can boast of visiting the homes of three or four doctors on his daily rounds considers that all argument regarding the possible safety of raw milk is at an end:

Of the Producer and Dealer

Then there is the education of the producer, than which there is no more important factor in the placing of safe milk on the market.

We read often in the daily press of a small outbreak of typhoid fever having occurred at some rural point. The local health officer has closed down the wells and sent away samples for examination. And so there can be no new cases. Always the water. It is a wise precaution to take but the water may bear no relation to the typhoid cases. There must be a carrier or a case of typhoid, perhaps undiagnosed, in the vicinity, responsible for spreading the disease. It is generally much easier for the typhoid organism to gain access to milk or food than to water. If the truth were known, it would be in many cases that the carrier milked the cow and, being careless in matters of personal hygiene, neglected the ordinary precaution of washing his hands before milking, and the milk supply was infected.

Legislation will not remedy this condition. The smallest producer must be told of the simple precautions which are necessary to protect the public and the reasons explained to him. And so right through the various processes of handling and shipping until the city pasteurizing plant is reached. The management of the pasteurization plant requires education in the distinction between commercial and scientific pasteur-

ization and the necessity of delivering to the consumer milk at a low temperature which has not been infected.

Successful educational methods as applied to the producer and the dealer must stress above all the financial advantage of placing a safe and pure product on the market. Without this financial stimulus little can be accomplished. In the smaller communities a licence to sell milk can be withheld if the producer fails to carry out the improvements required by the local health authority, and so the dairyman who improves his premises is encouraged by the limitation of his competitors. In cities the milk can be graded by the medical health officer on the results of laboratory tests and the dealer will pay a better price for milk of a higher grade.

The Value of Co-operation

Education on milk protection is best accomplished through women's organizations. The average male can be roused to enthusiasm over political and prohibition issues, but the protection of a milk supply by tuberculin testing of cattle or pasteurization is not a common topic of discussion at the club, the office or the store. Bring your facts before the women's organizations—the number of which is daily increasing—and you can not only sell public health protection on the spot but each purchaser present will act as an agent to increase your sales.

STANDARDS AND TESTS

Standards for milk have been fixed by all the provinces, and although they may vary in detail they are based on the same recognized tests.

The Use of Chemical Tests

Chemical standards for fat, and solids other than fat, have no public health significance except in so far as they safeguard the food value of milk. But milk being a food, chemical standards are necessary to define its nutritive value and to protect the public against fraud. Chemical tests are readily carried out at milk depots or creameries and unless there is some question of prosecution, necessitating an official test by an impartial authority, chemical tests by the health authority, although desirable, are not essential.

Bacterial Tests

The efficacy of bacterial testing as a standard for safe milk has been much discussed. It is generally recognized that milk which is produced under sanitary conditions, and kept cool and fresh, will ordinarily have a very much lower bacterial count than dirty, warm or old milk. It has been demonstrated that there are four essential factors in the production of milk of low bacterial count. These are—sterilized utensils, clean cows, the small-top milking pail and holding the milk at a low temperature. By making practical tests on six farms, members of the Dairy Division of the United States Department of Agriculture

found that it was possible for the average dairyman on the average farm without expensive barns and equipment to produce milk, practically free from visible dirt, which, when fresh, has a low count of less than 2,500 bacteria per cc.

Doubt is frequently expressed as to the reliability of bacterial counts. To answer this question let me quote from the third report of the Commission on Milk Standards appointed by the New York Milk Committee:—

"An opinion concerning the reliability of laboratory tests for numbers of bacteria has been reached on voluminous statistics secured for the most part by groups of observers working together as well as by individuals. One of these researches alone, carried out by members of the Commission in co-operation with others included the testing of over 20,000 samples of milk. In other instances repeatedly the same sample of milk was tested 100 times.

Some variations in the analysis of duplicate samples are inevitable, due to the fact that the bacteria are not in solution but are floating in the milk more or less clustered in clumps, each of which will count only as a single colony. Under such conditions only an approximate agreement can be expected.

The results of extensive study justify the Commission in the conclusion that the analysis of duplicate samples of milk made by routine methods in different laboratories may be expected to show an average variation of about 28 per cent with occasional samples of wider variation.

If five samples of the same milk are tested, the results may be relied upon as fairly accurate and always sufficiently accurate to place any particular milk supply unhesitatingly in grade A, B or C.

The object of bacterial tests of milk samples for the numbers of bacteria should be primarily to determine the sanitary character of the milk supply from which the sample is taken, rather than the character of a single sample of milk. It is strongly urged by this Commission that no grading of milk should be made upon the analysis of single samples, and that no prosecutions or court cases should be brought upon the bacterial analysis of a single sample of milk."

The difficulty of isolating specific organisms of disease precludes laboratories from carrying out this detection as a routine examination. It might be argued therefore that the bacterial test does not concern the actual safety of the milk from disease organisms, but is merely an indication of the conditions under which the milk is produced, handled, shipped or treated. This in effect is the case. The bacterial test determines the sanitary quality of the various milks on the market, and the inspection service must then discover the location and cause of the defects and initiate means for their remedy. In this connection the Commission on Milk Standards, already referred to, states that "The Laboratory Service and Inspection Service must be centralized under one head and their work thoroughly co-ordinated in order to give the greatest economy and efficiency". Bacterial standards will and should vary in accordance with the size of the community and the length of haul of the milk.

The Sediment Test

One of the most effective and convincing tests for clean milk which may be used is by means of the sediment tester, which demonstrates

on the spot the amount of dirt in a given quantity of milk by pumping it through a filter disc. To the small producer, a statement that his milk must be dirty because the bacterial count is high means little or nothing, but if he can be shown in his presence the quantity of foreign material in his milk he has seen something which he can understand and, with the unwelcome evidence of his neglect before him, he is amenable to reason and milk discipline. The sediment test used in conjunction with bacterial counts will show whether high counts are due to dirty methods of production or to age or temperature factors.

LEGISLATION

Provincial Legislation

In the preparation of milk control legislation the provincial authority should define milk, state the standards, both chemical and bacteriological, and lay down the minimum requirements for the production of a safe public supply. The municipal authority may then pass its own milk by-law which, although not inconsistent with the provincial regulations, may go further in the matter of limitation of bacterial counts, condition of dairy premises and methods of production and handling in accordance with the circumstances under which the milk is produced and the facilities and apparatus for inspection and control.

Criticism is frequently made of milk legislation in that the requirements, particularly in the improvement of dairy premises, are not enforced impartially on every producer; bu the small producer must walk before he can run and, provided that he is making a reasonable effort to carry out the health department's recommendations in accordance with his material progress, the final attainment of the letter of the law need not be unduly forced on him. Provincial legislation for the control of milk supplies has to be drafted so that it is equally applicable to milk supplied by a dairyman with two cows and by a city pasteurizing plant. It must therefore be general in nature and at the same time sufficiently specific to ensure that a safe product is obtainable for small towns and villages which in many cases have no local milk by-laws.

There would seem to be no good reason why every community, no matter how small, so long as it has local government, should not enact a by-law for its protection against infected milk. Legislation must, of course, be accompanied by inspection to ensure compliance with the law and inspection will show the necessity for some system of licensing.

Municipal Responsibilities

Inspection and licensing cannot successfully be carried out with the remote control provided by a provincial health department and must be delegated to the local authority. If then the village council will enact a simple by-law providing (*a*) for the licensing of all milk vendors at a nominal fee, (*b*) for the inspection of the dairy premises of these vendors by an official who will report to the council on the advisability of granting or refusing a licence, and (*c*) a final provision requir-

ing that all milk vendors shall have their cows tuberculin tested by a qualified veterinary surgeon and shall produce certificates that they are non-reactors, otherwise a licence will be withheld,—there will be available a milk supply which is reasonably clean and protected against tuberculosis. This is the most we can expect in the rural and semi-urban districts under present conditions.

PASTEURIZATION

The standard definition for the process of pasteurization has been generally agreed upon throughout the continent and the temperature of 145° F. and holding period of thirty minutes are believed to provide the necessary margin of safety for commercial conditions.

Pasteurization, without which no public supply can be pronounced safe, is not a practicable measure for small communities the population of which neither warrants the establishment of a depot with equipment for scientific pasteurization of milk nor justifies the appointment of an inspector to supervise the process. A safe pasteurized milk supply continues to be the privilege of the urban population served with an efficient health department, and the advice to "go for a change to the country and drink lots of fresh milk" which was given to the tired city dwellers in days gone by might well be reversed and the rural population urged to come to the city if they wish safe milk and water supplies.

With the knowledge available and the fact generally accepted that inspection, no matter how frequent or intensive, cannot guarantee a product incapable of spreading disease, the time cannot be far distant when all cities will have compulsory pasteurization by-laws in force.

INSPECTION

Medical inspection of the personnel engaged in the production of milk is not generally practicable, although in the case of certified milk a monthly medical examination of employees is usually required by statute.

Similarly a monthly veterinary inspection of certified dairy herds is a requisite, and in the case of a by-law being in force calling for tuberculin tested cattle a six monthly or yearly test is required.

The decision as to whether dairy premises are maintained at a suitable standard to produce a safe product rests with the dairy inspector. One of the inspector's most difficult problems is the individual who keeps two or three cows, and insists on being recognized as a dairyman, at the same time having neither the inclination nor the financial ability to adopt methods and provide equipment which are in accordance with modern methods of milk production.

The inspector must confine his recommendations and requirements to essentials, and there are eight minimum requirements which in the opinion of the writer must be observed for the protection of the consumer. These may be enumerated as follows;

(1) The quality of the milk shall conform to the definitions and standards laid down by the local or provincial laws.

(2) Milk drawn from any cow which has reacted to the tuberculin test shall not be used for human consumption whether pasteurized or not.

(3) The dairy herd shall be clean and, to the best of the owner's knowledge, healthy.

(4) The cow stable shall have a watertight floor, have sufficient air space, light, ventilation and drainage and shall be clean.

(5) A small-top milk pail shall be used, and the milker shall wash his hands before milking.

(6) A screened milkhouse shall be provided where the milk will be strained, cooled, and filled into sterilized containers.

(7) The water used for washing purposes shall be of a safe sanitary quality.

(8) All employees shall be clean in their persons and habits, free from communicable disease and shall not be carriers of typhoid, diphtheria or any other disease.

If these eight provisions are enforced as a minimum standard, the dairyman need not be put to much expense and the public health will be protected.

Inspection of milk depots and pasteurizing plants is of the utmost importance, for at these points the protection which the producer has provided may be nullified by careless processing. Any laxity in time and temperature control which might result in infected pasteurized milk reaching the consumer would undoubtedly shake public confidence in a process which has still many obstinate opponents.

Municipalities which permit the sale of raw milk, whether by choice or through force of circumstances, are faced with the necessity of monthly if not weekly inspection of all producers if the supply is to be safeguarded, and, in the case of small urban centres where this inspection is not forthcoming, the supply of safe milk becomes a very acute problem. It is questionable if there is any municipality in the Dominion with a population of less than 3,000 which has a trained dairy inspector to protect the milk supply. In this connection the following paragraph appears in the findings of the Milk Committee which reported to this Association in 1925;

> "The only solution would appear to be the subdivision of the various provinces into health districts of suitable area, each provided with a full-time district medical health officer and such inspectors or sanitary officers as are necessary."

Medical literature is continually bringing under suspicion an increased list of communicable diseases capable of being transmitted by milk, and infantile paralysis is one of the most recent suspects. Contributors to the New York State Journal of Medicine, the Journal of the American Medical Association and the American Journal of Hygiene, have reported three separate outbreaks of this disease in recent years attributable to infected milk.

Eternal vigilance on the part of the health authority is the price of the public safety, and no health department can relax its efforts until the milk supplies under its control are as safe as human endeavour can render them.

The Recommendations of the Montreal Health Survey Report

MONTREAL has had the privilege of receiving a most careful stock-taking of its public health needs by an unprejudiced group of public health experts, and the report based on the data collected with recommendations has been published in admirable form by the Survey Committee which sponsored the undertaking. This committee was composed of representative business and professional men who as a group were not associated with any particular health agency. The invitation to form such a committee was extended through Sir Arthur Currie, chairman of the Montreal Anti-Tuberculosis and General Health League, which organization had already contributed in a very large way to the increasing of interest in and understanding of health conditions. A technical committee of three Montreal health specialists, Drs. J. A. Baudouin, A. Grant Fleming, and R. St. J. Macdonald, were charged with the responsibility of collecting the material to be studied, preparing the report and of making recommendations.

The field staff of the Committee on Administrative Practice of the American Public Health Association under the chairmanship of Dr. C.-E. A. Winslow was engaged in a consultant capacity. The appraisal of the city health work was made by these consultants, using the "Appraisal Form for City Health Work" of the American Public Health Association. Associated with Dr. W. F. Walker, Field Director, was Miss E. L. Smellie, Chief Superintendent of the Victorian Order of Nurses for Canada. Assistance was received from many individuals and organizations. The hearty co-operation and assistance of Dr. Boucher, Director of the Department of Health, is especially referred to in the report. The complete report has been published through the courtesy of the Metropolitan Life Insurance Company, and copies of this report are now available from the office of the Montreal Health Survey Committee, 3640 University Street, Montreal.

In this synopsis of the report the major recommendations are presented, based on the study of facts revealed by the Survey, all of which are discussed in detail in the complete Survey Report. In presenting the need for this Survey, the following table of comparative mortality rates in 1927 for a number of cities shows the general death rate, tuberculosis death rate, infant mortality and the total deaths from diarrhoea and enteritis under two years of age.

COMPARATIVE MORTALITY RATES, 1927

City	Estimated Population	*General Death Rate (Deaths per 1,000 Pop.)	Tuberculosis Death Rate	Infant Mortality Rate (Deaths 0-1 Year per 1,000 Live Births)	Total Deaths Diarrhoea and Enteritis, 0-2 Years
New York.....	5,970,000	11.8	86	56	729
Chicago.....	3,101,000	11.5	82	62	547
Philadelphia....	2,036,000	12.1	85	64.	290
Detroit.....	1,341,385	10.8	91	70	296
Cleveland.....	984,000	9.6	80	56	115
St. Louis.....	830,000	12.9	62	56	123
Baltimore.....	813,333	14.1	87	81	191
Boston.....	793,000	14.0	86	76	230
Pittsburg.....	637,000	13.4	73	71	114
Buffalo.....	542,060	12.7	67	71.2	137
Newark.....	467,000	10.9	†82	63	78
Rochester.....	317,000	11.1	†67	63	43
MONTREAL...	699,500	14.9	126	113	870

* Includes all deaths occurring in city; non-resident deaths not excluded.

† Includes deaths of citizens in sanatoria outside of city.

NOTE.—These rates were obtained from the various cities by correspondence. The population estimate used of 699,500 is that of the Department of Health.

That the municipal authorities have shown a conservative view point and have in general been slow in accepting the modern public health programme as an official responsibility is particularly indicated by a comparison of the official expenditures for the department of health of Montreal and of other cities of similar size.

EXPENDITURES OF MUNICIPAL HEALTH DEPARTMENTS, 1927

City	Population	Appropriation	Per Capita
1. New York.....	5,970,000	$4,272,380.00	.72
2. Chicago.....	3,101,000	2,291,240.00	.74
3. Philadelphia.....	2,036,000	1,026,140.00	.50
4. Detroit.....	1,341,385	1,353,539.00	1.01
5. Cleveland.....	984,000	997,286.50	1.01
6. St. Louis.....	830,000	540,232.00	.65
7. Baltimore.....	813,333	642,350.00	.79
8. Boston.....	793,000	837,607.00	1.06
9. Pittsburg	637,000	747,497.00	1.18
10. Buffalo.....	542,060	497,004.00	.92
11. Newark.....	467,000	475,000.00	1.02
12. Rochester.....	317,000	306,530.55	.96
Average.....			.78
MONTREAL.....	699,500	274,201.58	.39

The twelve largest cities in the United States of America, through their municipal health health departments, spend, on an average, 78 cents per capita. The City of Montreal spent 39 cents per capita in 1927.

The standards by which the health services in Montreal, official and voluntary, were measured are those set up in the "Appraisal Form for City Health Work". The appraisal is based on the standards arrived at after careful and complete studies in many cities. The standard set is such that 25 per cent of the cities studied would obtain perfect rating.

APPRAISAL OF MONTREAL'S HEALTH SERVICES

	—Points—		
	Total Allocated	Total Scored	Per Cent.
Vital Statistics	60	43	72
Communicable Disease Control	175	95	54
Venereal Disease Control	50	30	60
Tuberculosis Control	100	55	55
Maternity and Ante-Natal Hygiene	75	66	88
Infant Hygiene	75	48	64
Pre-School Hygiene	50	44	88
School Hygiene	150	74	49
Sanitation (Water and Sewerage)	100	94	94
Laboratory	70	24	34
Milk Control	60	34	57
Food Control	15	8	53
Popular Health Instruction	20	9	45
Total	1,000	624	62.4

This means that the combined efforts of Montreal's official and voluntary health services measure only about two-thirds of the best examples of such services in other cities of comparable size. A city with reasonably adequate health services will score over 900, or 90 per cent.

PUBLIC AND PRIVATE RESPONSIBILITY.

The care of the public health is a state responsibility that is generally accepted throughout the civilized world. The public authority may meet its responsibility by purchasing services from a private agency.

It is recommended—

1. That voluntary health organizations be placed on a basis to render the most effective service, by payment to them, by the public authority, on an established basis, for service given according to the standard set by the public authority.

DEPARTMENT OF HEALTH, MONTREAL

It is recommended—

1. That, during the next three years, the budget of the Department of Health be increased to $638,640.00 to permit of the carrying-out of the detailed recommendations of the Survey.

Recommended Budget—$638,640.00—(91 cents per capita.)

Expenditure, 1927—$274,201.58—(39 cents per capita.)

Increase—$364,438.42.

2. That a Board of Health of five members be constituted as follows:—The University of Montreal and McGill University each to nominate two members, who, together with the Chairman of the Executive Committee of the City Council, shall be appointed by the City Council as the Board of Health. The Director of the Department of Health to be ex officio, the secretary of the Board, and to have the right to enter into all discussions, but not to vote.

This would bring to the aid of the city administration a small group, competent to act as advisers concerning the health work of the city, and to interpret to the public the work of the Department.

3. That the island of Montreal be organized as a health unit.

4. That the City be divided into Sanitary Districts, with a Health Centre in each district.

VITAL STATISTICS.

To carry on an efficient infant welfare health service, the objective of which is the preservation of infant lives, it is absolutely necessary that prompt information be available as to births. At present the Department of Health has not such information. To meet this need, it is recommended—

1. That By-Law Number 315, concerning the reporting of births to the Department of Health, be enforced.

COMMUNICABLE DISEASE CONTROL.

It is recommended—

1. That a modern set of Regulations, suitable for the control of communicable disease in a large city, be prepared; such regulations to include

(*a*) The care of the eyes of the new-born;

(*b*) Release of diphtheria and typhoid fever cases only upon negative cultures.

2. That every pre-school child be immunized against diphtheria, and that in order to secure prompt results, the Department of Health pay $1.00 to physicians for each pre-school child they report as having immunized. If every pre-school child were done, this would mean an expenditure of $100,000.00 for the first year, and $20,000.00 per year thereafter. The present cost of hospitalization of cases of diphtheria to the city is approximately $100,000.00 a year.

3. Provision of all vaccines, by the Provincial Bureau of Health, for free distribution, through the Department of Health, for the use of all citizens. If the Province does not make such provision, the municipality should do so without delay.

VENEREAL DISEASE CONTROL.

At present there are public clinics in Montreal at which 6,464 new cases attended in 1927.

It is recommended—

1. That cases which fail to take treatment and which, as a result, constitute a public menace, be reported to the Department of Health, and that the law provide that either an individual shall take treatment or be isolated, as is a person suffering from any other communicable disease.

2. That the Department of Health provide for social service work in the venereal disease clinics.

TUBERCULOSIS SERVICE.

The tuberculosis problem is still a very serious one.

It is recommended—

1. That a conference of the tuberculosis institutions be held to determine as to the development necessary to provide the 350 additional beds required, on the moderate basis of one indigent bed per annual death.

Once this decision is made, the provincial and municipal authorities

should provide the funds for the necessary additions. In regard to sanatoria, it is believed that their entire maintenance is public responsibility. The cost of treatment should be borne by the community as a whole.

2. That provision be made for the institutional care of tuberculous children. There is practically no provision for such at present.

3. That the authorities provide for two preventoria for children.

4. That the School Commissioners provide open-air class-rooms for the care of at least half of the 1,260 children in need of such care.

INFANT WELFARE.

The outstanding need is an adequate staff of trained personnel.

It is recommended—

1. That, working in and from every well-baby conference, there shall be at least one graduate, registered nurse.

SCHOOL HEALTH SERVICE.

It is recommended—

1. That adequate staff be provided for the School Health Service.

2. That parents be invited to be present at their child's regular physical examination.

3. That special classes be provided for the physically and mentally handicapped, as part of the school system.

The need in Montreal is estimated as provision for 2,200 children in classes for mentally handicapped.

1,260 Children in open-air classes.

500 Children in summer open-air schools (Forest Schools).

250 Children in sight-conservation classes.

125 Children in crippled children's schools.

4. That a dental service be organized and that a staff of 20 full-time dentists (or the equivalent) provide the staff for a dental service in the schools. The Department of Health had on its staff, on May 1st, 1928, 1 (one) dentist.

5. That a mental hygiene service be organized as part of the school health service.

PUBLIC HEALTH NURSING.

It is estimated that Montreal requires 184 public health nurses for health work, exclusive of bedside nursing service. It is recommended:

1. That, of the above number, 132 be on the staff of the Department of Health to carry on the services expected of the department to the extent of its responsibility. The Department of Health had on its staff, on May 1st, 1928, 48 public health nurses.

2. That only graduate, registered nurses be employed and that, in order to secure and retain the type of personnel desired, the minimum rates of salary for field nurses be from $1,380.00 to $1,620.00.

SANITATION AND HOUSING.

It is recommended:

1. That the Provincial Government pass a Town Planning Act which would zone the province, the Provincial Bureau of Health to pass health by-laws suitable for each zone. The Act to require that all cities of a certain size proceed with a town planning scheme for their city.

2. That, until such time as the provincial housing by-laws meet the needs of Montreal, a municipal housing by-law be passed and enforced.

LABORATORY SERVICE.

The diagnosis and control of communicable diseases, which, to a considerable extent, rest upon laboratory tests, are necessary for the protection of the community.

It is recommended:

1. That a laboratory service be provided, embracing all accepted public health bacteriological examinations for the diagnosis and control of communicable diseases, without regard to the ability of the individual concerned to pay.

2. That approximately 24 culture stations be established in fire-halls throughout the city, these culture stations to be merely centres for reception and distribution of materials.

FOOD AND MILK CONTROL.

It is recommended:

1. That by-law No. 891, concerning milk, be strictly enforced.

2. That by-law No. 926, concerning food-establishments and restaurants, be strictly enforced.

3. That steps be taken to set up the machinery necessary to enforce fully by-law No. 896, dealing with meat inspection.

INDUSTRIAL HYGIENE.

It is recommended:

1. That no child under 18 years of age be employed without having had a medical examination and secured a certificate permitting his employment at certain work.

2. That pregnant women be excluded from work, at least four weeks before expected date of confinement and six weeks after.

3. That a section of industrial hygiene be established in the Department of Health, and provide a health service for the municipal employees.

MENTAL HYGIENE.

It is recommended:

1. That an adequate mental health service be provided in the schools.

2. That special classes for the teaching and training of mentally-retarded children be provided as part of the school system.

3. That an adequate psychiatric clinic be established as part of the Juvenile Court.

4. That provision be made in general hospitals for the care of psychopathic (border-line) cases.

RECREATION.

It is recommended:

1. That additional neighbourhood playgrounds, for small children, be provided.

2. That every playground have one qualified man and one qualified woman as supervisors.

VOLUNTARY HEALTH AGENCIES.

It is recommended:

1. That the Montreal Health Survey Committee be continued to take whatever steps are necessary to keep the recommendations alive, to preserve public interest and to maintain pressure for action; at the same time, to carry on health educational work.

SUMMARY.

In the survey report, under the various headings, detailed recommendations are made. It does not seem practical to select half-a-dozen or more and point these out as the major recommendations. It is possible, however, to indicate the basic steps which must first be taken to lead up to and make possible the detailed recommendations. These steps are:

1. The reorganization of the Department of Health through the appointment of the Board of Health, as recommended, which, in turn, makes possible the formation of the advisory committees and the bringing together of the Department and the public.

2. Provision, for the Department of Health, of the budget recommended, which will make possible a proper school health service, laboratory service, communicable disease control and other essential services, none of which can be neglected if a properly balanced and effective piece of community health work is to be carried out.

3. The placing of the voluntary health organizations on a basis to render the most effective service in a co-operative way, brought about by payment to them, by the public authority, on an established basis, for service given according to the standard set by the public authority.

4. Continuation of the Montreal Health Survey Committee as a co-ordinating agency in the carrying out of the recommendations.

If these four fundamentals are made effective, the rest of the recommendations will be made possible and will be rapidly brought about.

The Teaching of Health in Normal Schools*

RAE CHITTICK, REG. N.
The Normal School, Calgary

"WHATEVER has to do with the growth of the child has to do with the teacher," so said Angelo Patri. In this great campaign of health education for the youth of the country, many individuals and organizations render valuable service. School boards, physicians, school nurses, social service workers give inestimable help, but the fundamental success of the movement depends upon the one in the firing line, the teacher. In dealing with the presentation of health material to student teachers, one must necessarily speak of the courses in public and high schools, since normal school work is essentially a combination of the two, with the viewpoint changed from knowledge of material to methods in presentation.

Last year in the Normal School in Calgary, there was an enrolment of more than four hundred student teachers. If these four hundred teachers, going out to four hundred schools, have an average attendance of twenty pupils in their schools, eight thousand children are reached. If these four hundred be keen, alert, enthusiastic campaigners for health, we should look for outstanding results in the next few years. But the difficulty is, can we expect this? Have we so trained these students, in a year at normal school, that they have overcome the prejudices, attitudes and ideas they have formed in their own childhood? Can they see the great potentialities in their work in health teaching? Do they realize that these children, so trained in childhood, will determine the health of the nation, the destiny of the race? It is, as in all other teaching, some is sown on fertile ground, some on barren. But if in their normal school training, the attitude of these student teachers has been changed, if their interest has been aroused, if they have been made to see that health is the most essential thing in life, that it is not an endowment but a purchasable commodity, and that the price is education, then something has been achieved. They will work out their own methods and show initiative in obtaining material and originality in meeting the situation.

MAKING THE CONTACT

With each of us, our own health is paramount. So, also, is it with the student teacher. We must begin here. Is she keen, alive, buoyant, a criterion of health? If not, why not? Can we find out something of

*Presented at the Seventeenth Annual Meeting, Canadian Public Health Association, Winnipeg, October, 1928.

her natural endowment, her habits of living, her tastes in recreation? Can we get to know her personally? It is surprising in how short a time one does get to know each of the students.

In the first place comes the physical examination, and, with the arrangement in our school, I see every student twice. Part of the examination is left with me, as the taking of the history, the testing of hearing and vision, and the examination of the nose and throat. This is an opportunity to make a personal contact before the physician comes. The physician examines the heart and lungs, takes the blood pressure and checks my examination. This arrangement has the advantage that there is more time to talk to the student personally than if the doctor were there from the beginning. At this time I try to ascertain several definite things in regard to ventilation, heating and lighting conditions where the student lives, and the number in a room. This is a very cursory inquiry, but an effort is made to make each student feel free to come at any time with his own individual problem or difficulty. Each student is given a physical rating of first, second or third class. This is entered with his academic standing in the permanent record in the office.

Remedial defects are usually promptly corrected, although many of the students are financed by government loans and are forced to wait the pleasure of the provincial treasurer in having their eyes tested or tonsils removed. Definite programmes are arranged for those who are under weight and enquiry is made into their living arrangements and personal habits. Under-weight students then record their weights weekly on a weight graph. To have all the students live under favourable conditions is a problem. A list of approved boarding houses, where living conditions are on the whole favourable, is provided but many of the students stay with friends or relatives.

In taking this responsibility for each student's health, it is hoped that each student, in going to her school, will feel the same responsibility for her pupils. Since in these western provinces a regular medical examination for rural pupils is not yet possible, it seems important that the teacher should be able to recognize defects and be able to conduct a health examination in an intelligent manner. The teacher learns, therefore, the use of weight tables and health zones, how to use an eye chart, how to test hearing, how to look for and recognize signs of diseased tonsils and adenoids, dental and orthopedic defects, skin diseases, and common symptoms of illness. She is taught to keep a record of this examination according to a definite form, and to keep it as faithfully and carefully as she does the register. This is kept as a permanent record in the school and should be a help to succeeding teachers.

In showing the students how defects may be corrected, particular emphasis is placed on the importance of home visits. The teacher must talk to the parents and obtain their co-operation. Charitable organizations, such as the Red Cross, will help her, when parents cannot afford

treatment. Her own health teaching and her work in creating healthful surroundings at school will do a good deal towards having these defects corrected.

HYGIENE OF THE CURRICULUM

HEALTHFUL SURROUNDINGS

Two other phases of health teaching in the normal school, namely, hygiene of the curriculum and the question of healthful surroundings, I am mentioning but briefly in passing, not because they are less important but because I cannot dwell on all phases of the work. It is enough to say that hygiene of the curriculum or hygiene of instruction deals with such problems as the time-table, rest periods, discipline, punishments, place for physical training, etc. Hygiene of instruction should stress two questions: First, will any of the pupils develop a health injury at school? Second, are the pupils tired out or unduly fatigued at the end of the day? In discussing the question of healthful surroundings, problems are presented which the student teacher is going to meet, especially if she enters a rural school. I try to show her how best to meet the existing conditions which we know are only too common in country schools, such as cross-lighting, not sufficient water for washing purposes, unjacketed stoves, no receptacle for drinking water, and unsanitary, disagreeable toilets.

THE BACKGROUND OF THE STUDENTS

The student must realize the value and importance of health teaching and, too, that this absorbing work, which has unlimited possibilities, can be brought into every subject on the course, in school and on the playground, and always must be carried over to the home. But one of the problems that we as normal school instructors must face in presenting this phase of the work is the handicap of the present day teacher. First, she has no background of health knowledge, as at the time of her public school life no hygiene was taught in our public schools, and health education still has no place in our high schools; and second, she works with a poor course of study. The programme as outlined for Alberta, and it is true of most of the provinces, is meagre, indefinite, chiefly physiology, and gives the teacher very little help in presenting an interesting programme of practical value, one which will function in the life of the child. True, the text book and a few suggested supplementary books give her some hygienic knowledge, but how to transform it into hygienic doing is a mystery to the average teacher. As far as the Course of Study is concerned, hygiene gets the least space and the least stress of any subject on the course. Pages are devoted to outlines in geography, history and English. Long lists of supplementary texts are given for these subjects; whereas health gets a paragraph or two with not more than four suggested helps in the entire outline, and

these are out of date and of little use to the teacher. The wealth of interesting, helpful material which may be obtained so cheaply and from so many sources is not mentioned. One is almost led to believe that health knowledge is considered instinctive, and, if not so with the child, should be with the teacher.

WORK FOR THE JUNIOR GRADES

The Objective

But in spite of these handicaps, the student teacher must be made to realize the objective in health teaching. In the junior grades this objective is to establish certain health attitudes and practices, rather than to give health knowledge. The problem is, what is the best plan of attack? How are we to establish these habits? Are we to teach them as a set of rules or chores or as a health code? No, we must disguise them. There are to be no rules at all. Rather, rules must be such as the child will consider fun to do, much more interesting than anything else. They must be taught over and over, each time in a different way, from a different angle, with a new story or rhyme or game. They thus incite fresh interest. The pupil sees them again as something new and fascinating to do. There are no rules to the child.

The Presentation

Since the teacher must present the same topic over and over, in the junior grades, as it is only by repetition a habit is established, how may she keep it interesting and avoid monotony to the child? May I take a specific topic to bring out my point. We wish to show the value of long hours of sleep, of going to bed at eight o'clock. We must have a setting for the lesson in order to arouse the child's interest. The teacher may use a "sleep song", as Margaret Sangster's Cradle Croon, or By-Low Baby Bunting, or Rock-a-by Baby on the Tree Top. She may use a story, as one of Elizabeth Blaine Jenkins' or Stella Booth's, or some of the poems with which the child is familiar, as My Bed is a Boat, Bed in Summer, The Rock-a-by-Lady from Hush-a-by-street. She may use pictures or posters or health rhymes. The Old Mother Goose rhymes are always fascinating; the Old Woman who Lived in a Shoe put her children to bed early every night. Wee Willie Winkie ran through the town every night at eight o'clock to see if the children were in their beds or not. The teacher may also tell something of plants and animals and how they sleep, of the habits of children in other lands. She then brings out the points of her lesson, as she has gained the interest of the child. She needs must tell why all things must sleep, why the kitten and the puppy and the baby sleep so much. She shows what sleep does for little people, how it makes them grow, gives them brighter eyes and rosier cheeks, helps them to run faster and jump higher. The pupil is led to see that everybody in his world, the chickens, the bunnies, the birds, the people in his stories, go to bed early, so it is much more fun to go too. He learns how to get ready for bed, to

take a bath, to brush his teeth, to open the window, to care for his clothes. He learns that it is best to sleep in a little bed by himself, to have a flat pillow, to have light warm coverings.

Interesting follow-up work is then used by the teacher. In grade I, the pupils may make clocks showing the time to go to bed, the time to get up. They may make sleep charts, showing their bedtime for a week. They may have a bedtime competition, or make a sleep poster or model a bedroom with plasticine, showing the open window, the flat pillow, etc. The teacher weighs and measures the pupils to see how much they have gained since they started to go to bed early. She marks the weight on their report cards. This gives the material for many lessons. These lessons need not be grouped, but given when the teacher thinks there is a special need, when some are forgetting or growing careless.

So it is the same in teaching any topic. The teacher must feel there is a need. She must meet that need by trying to establish definite habits. She must approach the subject with many and varied introductions. She must vary her follow-up work.

Sources of Material

The greatest difficulty to the teacher is, of course, to find these interesting ways of presenting the same old ideas, so I encourage the student teacher to use every bit of available material. She may adapt the old fairy tales. Cinderella, you remember, didn't go to parties or stay up late, but went to bed early in her own little bed. She grew up much more beautiful than her sisters and married the Prince. That marvellous personage Puss-in-Boots cured the Princess of a dreadful illness, by giving her fresh milk and eggs every day, and so won her hand for his master the Marquis of Carabus. Jack, of Bean Stalk fame, found out how to become as big and strong as the giant. Old nursery rhymes lend themselves. Jack and Jill carried fresh water every day. They knew they must have plenty to drink. Miss Muffet ate curds and whey because she knew they were made from milk. Boy Blue fell asleep in the haycock,—it was such a nice place to sleep, out in the fresh air. The mouse ran up the clock every night to see the time. He knew when the children should go to bed,—then the house would be quiet.

In order that these student teachers may have some material, or at least suggestions for work in their own schools, they carry out many projects at Normal. In connection with their work in primary methods, they make collections of poetry for children. While they are doing this, they pick out the poems which may be suited for health work. Many of those of Field and of Stevenson lend themselves, as Fun Outdoors, The Friendly Cow, System. They also make collections of material about children in other lands. They are on the watch for pictures, either from magazines or other sources, which may be used for language lessons in health. Probably the work in which they are most interested is the writing of original health stories and plays. This project is carried out in co-operation with the Art and English departments. They write

the story or play, make a booklet and print it in, using original illustrations. Some of these stories have been exceptionally good.* They also make original health charts, posters and wall runners. Last year, we tried to get away from pictures cut from magazines and found paper cutting, using coloured primary paper, very successful.

If I have appeared to dwell at considerable length on this phase of the work, it is because it is of such great importance to have health work properly started in the lower grades.

WORK FOR SENIOR GRADES

The Objective

If the teacher sees that the objective in the junior grades is the establishing of certain health practices, she must also realize a definite objective in grades five to eight. Here the pupil is given a *reason* for doing certain things, a logical basis for those habits he has formed. He is led to understand the why of health practices. He learns, for example, why teeth decay and so the need for brushing them; how the heart is injured and so the proper care of it; what foods build bone and muscle and so is able to choose his foods intelligently. That is, the student teacher understands that in these upper grades enough physiology is taught to allow the child to understand intelligent care of the body.

Adapting the Lesson to the Life of the Child

The greatest difficulty for the teacher, in this work, seems to be in carrying the physiology taught over to the life of the child. It is not enough to teach a lesson, explaining the importance or value of some structure of the body, but she must see that the lesson is lived, that the child has gained something from it which is of use to him in his everyday life, that he will be a healthier, happier individual because of this lesson. May I take again a specific instance. The teacher is giving a lesson on the skeleton. She teaches the main skeletal features, the thorax or bony cage, the pelvis, the limbs and kinds of joints. She shows the value of this structure for movement, protection, etc., but she must not stop there. What can the child do to ensure a strong framework with properly shaped bones and flexible joints? She must teach him what foods to choose to build strong bones, how to stand and walk correctly to ensure the growing of straight bones, the value of exercise and sunlight, the importance of rest in the repair of bone cells, the effect of disease germs on the bones and joints. Now, she must continue and see that the child actually lives up to this teaching. Does he drink sufficient milk? Does he stand correctly in school? Does he play outdoors at recess? And does he go to the dentist?

**Miss Browne has been kind enough to have several of them published in the Red Cross Junior, which has given a great impetus to the work. Under the sponsorship of Miss D. J. Dickie, Messrs. Dent & Sons bought five stories for publication this year.*

The Value of Correlation

The students work out many interesting ways of correlating health with other subjects in these senior grades. Lessons in citizenship and oral composition include a study of health heroes—Lister, Pasteur, Koch, Madame Curé and our own Dr. Banting, of public health laws, and of the control of epidemics. History lends itself in the study of scurvy, yellow fever, malaria; geography, in the trade routes of the world and what they bring us in foods and clothing and medicines.

The world must push onward, science must always discover something new; tried and trusted methods are thrown in the discard. It must be so, but the key-note of this great progression is interest, enthusiasm, and the desire to do. I ask myself,—Have my normal students this desire? Have I so aroused their interest that they must carry on? Will they leave something better than they have found? Can they realize that in a little rural school they have the nucleus of our race, that the race marches forward on the feet of these healthy children, and that there is nothing more wonderful in the work than children, no hing more interesting? If the answer to these questions is in the affirmative then, I feel, the teaching has not been in vain.

Variations in the Fish Larvae of Diphyllobothrium Latum*

DANIEL NICHOLSON, M.D., M.R.C.P.

Department of Pathology, University of Manitoba.

The larval form of the Diphyllobothrium latum, the broad tapeworm, has been demonstrated in two species of fish ("wall eyes", Stizostedion vitreum, and the great northern pike, Esox Lucius), in certain lake waters of Ontario, Manitoba and Alberta. Human infestation is apparently increasing and has been traced to these sources. Dogs living near the lakes have been shown to be infested and are probably very important in continuing the life cycle of the parasite. Certain wild animals may act as host. This has been shown in the case of the bear and the fox. The infestation was, in all probability, brought to this country by immigrants from the Scandinavian countries who worked in lumber camps, etc., in the vicinity of the lakes. While Canadians are not in the habit of eating raw or under-cooked fish, the apparently increasing infestation of the lake fish in certain regions assumes more importance as a possible public health problem. This infestation of our fish is, too, of certain economic significance as markets now taking large shipments from our northern lakes may be unfavourably influenced on account of the infestation. It is important, therefore, from both the public health and economic view point that the problem be effectively met and to do this demands accurate knowledge of conditions. One of the first requisites is a means of identification of the larval forms in the fish. Dr. Nicholson gives the necessary details of this in the following paper.

EDITORIAL COMMITTEE.

THE Diphyllobothrium Latum passes its tapeworm stage in man, dog or fox and its larval stage in the flesh of a fresh water fish. The tapeworm in mammals lays eggs which are passed with the feces. These eggs find their way into streams where ciliated embryos are hatched out. A small crustacean, the cyclops strenuus, ingests the ciliated embryo. It burrows through the alimentary tract of the cyclops and becomes encysted. Fish which inhabit the shallow waters near the shore eat these infested crustaceans, and when the crustacean is digested off by the intestinal juices of the fish the larva burrows its way through the mucosa of the alimentary tract into the flesh of the fish.

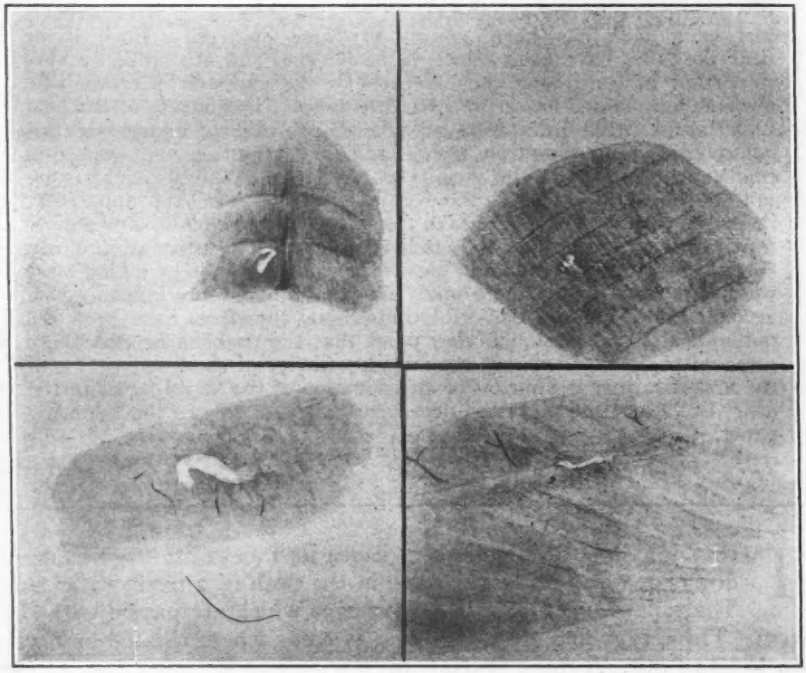
There are two very practical methods by which this parasite may be discovered. In the tapeworm stage the feces contain many ova. In searching for ova it is best to employ a concentration method.† The

*Presented at the Annual Meeting, Canadian Public Health Association, Winnipeg, October, 1928.

†*Can. Med. Assoc. Jour. 1928, XIX, 25-33.*

sediment which soon settles, contains many ova and these may be readily detected under the low power of the microscope.

In fish the larvae frequently occur just under the skin and to find them the following procedure is most successful. Remove the skin by first making incisions from head to tail near the dorsal and ventral aspect. Also incise down the side of the fish. Incise the skin behind the gills and lift it with forceps, stripping it down towards the tail. If larvae are present they will frequently be seen attached to the removed strips. Next pare off thin slices of the flesh with a sharp knife. The flesh is translucent in contrast to any larvae which are opaque and white.



TYPICAL LARVAL FORMS AS SEEN IN FRESH FISH TISSUE.

The larvae vary much in size and position. In size they may be from 5 to 20 millimeters long and from 0.5 to 1.5 millimetres in width. They may assume any conceivable position such as a straight line, a hairpin turn or be coiled up. Fish flesh does not have the power of forming a cyst around them. The larger forms have definite segments, and the head retracts and protrudes as the worm crawls along. Sometimes a slit may be seen in the side of the head by means of a hand lens.

Pressing the strips of fish flesh between glass plates facilitates seeing

the larva but is usually not necessary. Place the larvae in a drop of water on a warm surface and they will usually move about even after the fish have been kept in cold storage for several months. Larval forms found in pike (Esox Lucius) and pickerel (Stizostedion vitreum. Mitch.) belong to the Diphyllobothrium Latum species. By feeding the infected fish uncooked to dogs the adult tapeworm may be developed, showing the broad short segment containing a rosette-shaped central uterus.

Infection of man takes place only where fish is eaten raw as is the custom among some of the peoples of northern Europe. Ordinary cooking renders any fish safe. Actually 65°C. for 5 minutes kills the larva and in ordinary cooking fish is subjected to 100 or more degrees of heat for at least 10 minutes.

Conference of the National Voluntary Health Agencies

AT the request of several of the nationally organized public health agencies a conference of their representatives has been called to meet shortly in Ottawa under the auspices of the Department of Pensions and National Health. Each organization has been requested to present its objectives, aims and activities, together with a financial statement indicating the sources of its maintenance and its disbursements. The co-operation of the Department of Health in calling such a round table conference means a great deal to the success of the meeting and bespeaks a very real interest in the effort to take stock of the present activities of our various national health agencies. Such a conference should be most profitable. A clear definition of the field of each of the organizations and an understanding of its work will increase the efficiency of each, eliminating unnecessary overlapping and giving greater confidence in the work of all the organizations engaged in public health work in Canada.

Editorials

THE MONTREAL HEALTH SURVEY

THE Montreal Health Survey Committee's report is continuing to provide a topic of active discussion in Montreal and elsewhere. The main recommendations of the report are, of course, obviously applicable in Montreal, and it is to be hoped that they may be put into effect as soon as possible. While most of them are based on principles already well established, it is interesting to note that some of them call attention to conditions which should be a matter of concern to communities in general.

One has in mind, for instance, the suggestions that there be medical advisory committees attached to the Department of Health, and that practising physicians be paid for certain types of service. Dr. Vincent of the Rockefeller Foundation has made a statement, since frequently quoted, to the effect that every physician is potentially a health officer. The two recommendations mentioned provide the opportunity for applying Dr. Vincent's suggestion. In Canada, we have ten thousand physicians, scientifically trained and capable of both giving advice and doing work of a type thought, in the past, to be the duty of full-time physicians on health department staffs, and, until recently, little effort has been made even to enlist their co-operation and sympathy in health department work. The result, in many cases, has been inadequate service, tasks only partially completed, and, in some cases, misunderstanding or even friction between departments of health and the organized medical groups; the latter feeling that the former are infringing on the rights of physicians, and the former attempting campaigns which are incapable of accomplishment. One thinks, for example, of the futility, generally speaking, of health departments attempting a diphtheria immunization scheme when most of the diphtheria mortality is in the pre-school age, which, at present, health departments acting through schools cannot reach. It would appear to be obvious that were it possible to promote successfully a scheme involving the payment of a small fee to family physicians for each child immunized, the question of diphtheria control would be close to solution. The problem of vaccination and smallpox control is of a similar character and could be solved in much the same way. The Committee's suggestion that advisory medical committees be attached to the department would both provide the means for solving such questions as these, and ensure the hearty co-operation of the organized medical profession in the

approach to many other questions in which such co-operation is desirable.

The suggestion that there be free distribution of biological products is in accord with already established practice in most communities where the matter of mortality reduction receives serious consideration. If such products are not distributed free, disease will progress and mortality result owing to the fact that the community involved disclaims responsibility for the conservation of the health and life of its citizens. As far as possible, the state should free itself of the criticism that poverty has been allowed to be the prime factor in the withholding from its citizens of products whose life-saving qualities are definitely acknowledged. Biological products, such as sera and vaccines, must be available free in every community which desires to cut down sickness and mortality rates.

The recommendation of the Committee with reference to the establishment of a Section of Public Health Nursing in the Department of Health is sound. The cities in which public health work has succeeded are those in which there is an adequate staff of well-trained, well-paid public health nurses. The recommendation of the Committee for Montreal is again one which is generally applicable. The survey revealed the existence of an inadequate staff of underpaid nurses in the Department of Health, and the report makes it evident that the number of nurses should be raised to 132 if the Department is to provide adequate service.

In Montreal, the voluntary health agencies carry an undue share of public health work, and it would seem to be a sound principle that where established public health service, which is a government responsibility, is provided by voluntary agencies, these agencies should be subsidized on a standard basis, as recommended, instead of receiving small lump-sum grants such as are now given without any consideration of the amount or quality of the work being accomplished. Where this is done, it is recommended that the Department of Health should establish the standard of work and personnel as a basis for subsidy.

The need for popular health instruction is stressed by the Committee and the definite recommendation is made that there be a Section of Health Education in the Department and an advisory committee on Health Education.

It would seem logical to assume that the carrying out of the recommendations of the Committee will depend on the support of the citizens of Montreal themselves. A well-devised plan for continuous health education will result in the rallying of popular support to the assistance of the Department of Health and, as a matter of fact, such a plan is essential to the making effective of the general scheme which will undoubtedly evolve as a result of the fine piece of work achieved by the promoters of the Survey. In the meantime, it would seem that the Montreal Health Survey Committee should continue until such time as the carrying out of their recommendations is an established fact.

Canadian Public Health Association
18th Annual Meeting
Montreal, June 18th, 19th, 20th, 1929

THE 18th Annual Meeting of the Association will be held in Montreal on Tuesday, Wednesday and Thursday, June 18th, 19th and 20th. During the same week the Canadian Medical Association will be in session. In planning the programme every effort has been made to make it possible for our members to attend the sessions of the Canadian Medical Association and for their members to attend such of our sessions as they may desire. To accomplish this, the Canadian Public Health Association will hold two of its important sessions on Tuesday, June 18th, on which day business meetings only of the Canadian Medical Association are being held. The sessions on Wednesday and Thursday mornings will be held jointly with the meetings of the Canadian Medical Association and on Thursday afternoon there will be meetings of the Laboratory and Public Health Nursing sections. It is not often possible for the two Associations to meet at the same time and in the same city. Your executive feel confident, therefore, that the happy arrangement for this year will mean added strength to each association.

The acceptance of the most cordial invitation, which was extended to the Association by the Mayor and Corporation of the City of Montreal to hold the 18th Annual Meeting in this city, places the Association under an added debt of gratitude to the City and to the Province of Quebec. Eighteen years ago the inaugural meeting of the Association was held in Montreal under the patronage of the late Lord Strathcona; five years ago the 13th Annual Meeting was held here and is remembered as one of the most important in the life of the Association. Now the 18th Annual Meeting will be convened in the same hotel under whose hospitable roof the Association was constituted almost eighteen years ago.

GENERAL PLAN OF MEETING

Monday, June 17th.
Executive Council Meeting.
Tuesday, June 18th.
Morning—General Session.
Afternoon—General Session.
Evening—Dinner meeting—Section of Industrial Hygiene.
Wednesday, June 19th.
Morning—Joint session with the Canadian Medical Association (Section of Public Health).
Afternoon—General Session of the Canadian Medical Association.
Thursday, June 20th.
Morning—Joint session with the Canadian Medical Association (Section of Public Health).
—Laboratory Section.
Afternoon—Section of Public Health Nursing.

PROGRAMME

The scientific programme promises to be of very special interest. Emphasis has been placed on the general subject of the control of communicable diseases. Papers will be presented also on Industrial Hygiene, Sanitation, Nutrition,

Child Hygiene, Mental and Social Hygiene. Provision has been made to give ample time to visit the Department of Health and to see the work of the Department in all its branches. The local committee are providing also for visits to other centres of special interest to public health workers.

HEADQUARTERS

The Windsor Hotel will be headquarters for both associations. By this arrangement members of the two associations will be able to attend the various sessions without loss of time or inconvenience.

HOTEL ACCOMMODATION

The following is a partial list of hotels and rates:

Name of Hotel	*Double Room*		*Single Room*	
	With Bath	*Without Bath*	*With Bath*	*Without Bath*
Windsor	$8.00 up	$6.00	$5.00 up	$3.00 up
Mount Royal	$7.00 up	—	$4.00 up	—
Queen's	$7.00 up	$5.00 up	$4.00-$5.00	$2.50 up
Place Viger	$8.00	$6.00	—	—

TRANSPORTATION ARRANGEMENTS

The Canadian Medical Association has made arrangements using the Identification Certificate Plan for its members for this meeting; this gives the round-trip on the basis of one fare and a half. Since it is the purpose of the Canadian Medical Association to send identification certificates to each of its members, and as a great many of our members will receive a certificate in this way, it has been considered best to ask our members who desire such certificates from our Association to write to the General Secretary, Dr. J. T. Phair, East Block, Parliament Buildings, Toronto. For details of limitation as to routes, dates of sale, return limit and territory, our members are requested to write also to the General Secretary. The Summer Tourist round-trip rate is available and these tickets are on sale from May 15th with a limit date of October 31st. The Identification Certificate Plan is limited, going June 13th, returning June 27th. The following table gives a comparison of these rates:—

To Montreal from	*Regular Round Trip*	*Summer Tourist Round Trip*	*Identification Certificate Plan*
Victoria Vancouver	$183.55	$138.45	$152.96
Calgary	$137.30	$133.15	$114.40
Regina	$109.65	$106.00	$ 91.40
Winnipeg	$ 87.30	$ 83.65	$ 72.75
Fort William	$ 62.30	$ 62.30	$ 51.95

The local committee in charge of the meetings is as follows:—

Dr. C. N. Valin — *Dr. W. T. B. Mitchell* — *Dr. Jean Decarie*
Dr. T. A. Starkey — *Dr. R. St. J. Macdonald* — *Dr. S. Boucher*
Dr. F. G. Pedley — *Dr. A. H. Desloges* — *Dr. J. A. Baudouin*

Dr. A. Grant Fleming—Chairman

EPIDEMIOLOGY AND VITAL STATISTICS

A. C. Jost, M.D., and Neil E. McKinnon, M.B.

A SICKNESS SURVEY IN NEW YORK STATE*

IN New York State a unique attempt was made during 1927 to gain some definite information as to the causes of illness. Complete reporting for the year by 107 physicians of all new cases of illness was obtained. These physicians served a population of approximately 100,000 persons in both rural and urban municipalities. During the year the cases of new sickness totalled 98,000, or averaged, approximately, one sickness per person annually. Cases of communicable disease, reportable under the provisions of the New York State Sanitary Code numbered only 3.3 per cent of the total cases (and pneumonia is included in the reportable diseases). Non-reportable diseases, therefore, accounted for 96.7 per cent of the cases. Colds, (bronchitis, coryza, "grippe", laryngitis, pharyngitis, and similar conditions) and tonsilitis accounted for 34.7 per cent. Digestive disorders (except diarrhoea and enteritis under 2 years) accounted for 14.6 per cent, while to surgical cases (excluding gynecological) are attributed 13.7 per cent and 8 per cent to neuroses. Among the reportable communicable diseases, measles, chickenpox and whooping cough are credited with 64.8 per cent, scarlet fever and pneumonia (all forms) with 9.5 and 8.1 per cent (of reportable diseases) respectively. It is noteworthy that diseases of the heart, cancer, chronic nephritis, pneumonia and tuberculosis, the five leading causes of death, to which were attributed in the same year for the entire State, exclusive of New York city, about 80 per cent of the deaths, accounted for little over 10 per cent of the cases.

Such studies as these, studies of morbidity rather than of mortality, are a new phase of public health endeavour. Analysis of them will give valuable information on the state of the public health and show conditions which should receive public health attention.

REPORTED CASES OF CERTAIN COMMUNICABLE DISEASES IN CANADA* BY PROVINCES—FEBRUARY 1929

Disease	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Diphtheria	31	25	226	273	61	25	38	71
Scarlet Fever	109	76	466	465	91	142	160	65
Measles	4	—	258	3521	1849	236	291	80
Whooping Cough	27	—	65	368	175	46	9	13
German Measles	—	—	21	26	†	29	29	3
Mumps	—	—	149	548	212	45	69	271
Smallpox	1	—	31	133	18	63	2	68
Cerebrospinal Meningitis	1	1	6	10	—	—	6	2
Anterior Poliomyelitis	—	2	—	—	2	—	1	—
Typhoid Fever	—	1	22	87	4	2	11	—

*Data furnished by the Dominion Bureau of Statistics, Ottawa.
†Not reportable.

*Journal of the American Medical Association, Feb. 16, 1929.

PUBLIC HEALTH NURSING

RUBY M. SIMPSON, REG.N., AND FLORENCE H. M. EMORY, REG.N.

AN INTERNATIONAL COURSE IN PUBLIC HEALTH NURSING

RUBY E. HAMILTON, Reg.N.

SINCE the International Course in Public Health Nursing in London may be unknown to some who read this article, a few words regarding the origin of it may be in order. In 1919 and 1920, when the first Director of the Nursing Division of the League of Red Cross Societies was asked to make a study of the nursing activities of the National Red Cross Societies in Europe she immediately realized the great need for trained workers and especially for public health nurses. Courses for nurses in public health were few at that time in any part of the world and practically none existed in Europe. At once the question arose as to the best place to establish such a course.

There were many things to be considered. The prospective students were young women who had become interested in nursing chiefly because of the part they had played as V.A.D.'s during the war. Some had not had the advantage of a training in a standard school of nursing but were women of keen intelligence, culture and ambition, and were filled with enthusiasm for the great field of work that lay before them and were quick to avail themselves of the opportunity of attending a special course that would better enable them to return to their country to aid in re-construction work that was so necessary at that time.

After much consideration by the nursing division of the League of Red Cross Societies, London was chosen as it appeared to be the most accessible centre for European students, and, with its many old established schools of nursing, seemed to offer possibilities for the future development of such a course. As there was no department of public health nursing in any university of England the household science department of King's College was approached and asked to organize the first course as an experiment. The following year, in 1921, the course was transferred to the social studies department of Bedford College for Women, University of London, and the College of Nursing, London, and up to the present time is carried on jointly by these two educational institutions.

Each year witnesses improvement in the course of study as the needs of the students are more fully appreciated. Some of the lectures are taken in common with the first and second year students of the social studies department at Bedford College, and others are arranged for in separate groups. The lectures at the College of Nursing are frequently combined with those of the students taking the Ministry of Health Course for Health Visitors or are given separately.

Following the lectures at Bedford are coaching groups when four or five students have the privilege of meeting the different lecturers for thirty or forty minutes each week in their study and free discussion takes place, where

difficulties arising out of previous lectures or field work are solved. This is a very valuable asset to the course as the students are from many countries and have different traditions and customs and perhaps language difficulty, which may require personal contact with the lecturers in order that a perfectly clear understanding may be reached. It is also interesting to compare similar health situations and how they are met in different countries.

The curriculum at present consists of lectures in subjects that will give the students some scientific understanding of public health work and includes general psychology, child psychology, social administration, economics, hygiene, public health nursing, communicable diseases, tuberculosis, mental hygiene, nutrition, principles of teaching and history of nursing.

In order that the students may have extra time for field work the course extends over a period of eleven months, beginning usually the first week in August. This field work, lasting usually from six to seven weeks prior to the college course, gives the students an opportunity of becoming adjusted to a new environment and of gaining more knowledge of the language as well as serving as a period of observation. This usually includes observation with the borough, county and urban councils as well as the London County Council, also the district nursing associations, charity organizations and the lady almoners department of the large hospitals. While with these various departments the student observes child welfare work, ante-natal clinics, school nursing, dental clinics, school treatment centres, orthopedic clinics, maternity homes, inspection of midwives, etc. For those who will return to their country to take up rural nursing, provision is made for a visit to several counties to see the different county schemes for health work, and it is usually arranged for three weeks to be spent in seeing some of the health work in Paris, Soissons and Brussels.

Throughout the three college terms, one afternoon each week is reserved for an excursion to some institution where an interesting piece of health work is being carried on.

It is difficult to sum up the advantages of such a course. The very fact that one has the opportunity of living with nurses from practically every country in Europe as well as China, India, South Africa and New Zealand, getting their point of view on subjects that are more or less familiar to us, is invaluable, to say nothing of the importance of the technical information imparted throughout the course. The history of nursing has a meaning in England and Europe that it cannot have on this side of the Atlantic. To visit the Nightingale Training School at St. Thomas Hospital or to walk quietly down that quiet little street off Park Lane where Florence Nightingale resided for many years, brings us much nearer to that great genius who exerted such an influence on the laws of health as they are taught to-day; or to pay homage in the stillness of the beautiful tomb of the great Louis Pasteur at the Pasteur Institute in Paris, is indeed, an experience not to be forgotten. In fact there are few excursions in the old land that do not inspire us and create a desire to put forth greater effort to establish public health nursing on a sound basis.

INDUSTRIAL HYGIENE

F. G. PEDLEY, B.A., M.B., D.P.H.; J. G. CUNNINGHAM, B.A., M.B., D.P.H.

THE HEALTH OF WORKERS IN DUSTY TRADES

R. VANCE WARD, M.D.

THERE is probably no other single subject in the industrial field that has been given so much attention by hygienists as that of the dusty trades. Nevertheless, realizing that certain phases of the problem have not been settled, the United States Public Health Service has undertaken the preparation of a series of bulletins on the health of workers in dusty trades.

Six industries were chosen, in each of which the principal dust to which employees were exposed represented a great group of dusts:

1. The cement industry, representing *calcium* dust.
2. Silver polishing, representing *metal* dust.
3. The granite industry, representing *silica* dust.
4. The hard coal industry, representing *carbon* dust.
5. The cotton industry, representing *vegetable* dust.
6. Street sweeping, representing *municipal* dust.

From 500 to 1000 people exposed to the dust were selected for observation and the period of observation was set for two years. The results of the study in the cement industry have been published in Public Health Bulletin No. 176.*

Portland cement is manufactured by combining a material high in lime, such as limestone or marl, with one in which silica, iron oxide and alumina are the chief constituents, such as clay or shale. The raw materials are intimately mixed by finely grinding the two. The fine powder is then subjected to a temperature of from 1400° to 1600°C., when a semi-fusion takes place and the mixture rolls up into little balls, known as clinkers. After cooling, the clinkers are mixed with gypsum and finely pulverized. A chemical analysis shows about 22 per cent silica and 62 per cent lime in the finished product.

METHODS OF STUDY

(*a*) A detailed analysis of the causes and severity of disabling sickness among cement workers was made by recording the cause of all absences from work of two consecutive days or longer among the employees of a cement plant in one of the South Atlantic States.

(*b*) A general physical examination was given to every person on the company's pay-roll. In addition, any person suspected of having a chronic respiratory disease was given a special X-ray examination of the chest. X-ray films were made of the chests of employees representing different occupational groups and a different number of years in the industry, for the purpose of determining the presence or absence of pneumonoconiosis.

(*c*) A study of the working environment, and especially of the character and amount of dust to which workers were exposed was made.

**The Health of Workers in a Portland Cement Plant.—Public Health Bulletin No. 176, U.S.P.H.S., Washington.*

RESULTS OF STUDY

(*a*) *Disability among Cement Workers Compared with Other Workers.* The frequency of disability on account of respiratory disease among the cement workers was twice as great as the average respiratory rate among the employees of eleven manufacturing establishments in relatively non-dusty industries. Compared with a group of rubber workers, for which comparable morbidity data were available, an equal number of cement workers had experienced 2.8 times as many absences from the following respiratory diseases, considered as one group: colds, bronchitis, influenza and grippe. Diseases of the skin caused disability five times as often, and diseases of the eyes and ears, diseases of the pharynx and tonsils, and rheumatism, each occurred among the cement company employees at about three times the frequency in the other group. In general, the briefer the respiratory disability, the greater was the disparity in the rates of the two companies.

(*b*) *General Conclusions from the Companies.* In every available comparison of sickness incidence rates, the frequency of the minor respiratory group of diseases was found to be high among the cement workers. The more serious respiratory diseases, such as pulmonary tuberculosis and pneumonia, caused relatively little disability among the workers.

Each of the comparisons revealed in the cement group a high rate for disabilities from diseases of the skin. Furunculosis caused 70 per cent of these absences, most of the cases occurring in the summer, and in the finishing end of the mill.

Most of the cases of rheumatism occurred in the yard and quarry and among men in the mechanical department, where there is exposure to sudden changes of atmospheric conditions.

Among diseases of the eyes and ears, conjunctivitis was the most frequent, and among gastro-intestinal disturbances indigestion and the like were the specific complaints most frequently reported.

(*c*) *Disabling Sickness according to the Nature of the Working Environment.* It was found that the men working in the heavier concentrations of dust experienced 59 per cent more disability on account of respiratory sickness, and 94 per cent more non-respiratory disability than the men exposed to relatively little dust. Practically all of the difference in the non-respiratory rates for the two groups was due to a higher incidence of those diseases which were found to be associated with a heavy concentration of cement dust, namely, diseases of the skin, of the eyes and ears, and of the digestive system.

(*d*) *Physical Examination Findings.* Of the 570 men examined, about one-third had one or more respiratory defect or chronic respiratory disease. Of these the more common conditions were: 1. Râles and other abnormal breath sounds. 2. Diseased tonsils. 3. Inflamed throat. 4. Enlarged turbinates. 5. Chronic rhinitis. It was found that the men exposed principally to cement dust showed the largest proportion, with one, or more than one, respiratory defect or condition. Inflammatory conditions of the eye and impairment of hearing occurred

most frequently in the group exposed to cement dust.

Employees with one respiratory defect or chronic pathological condition of the respiratory apparatus were disabled by respiratory illness 18 per cent oftener, and those with two or more such conditions, 69 per cent oftener than persons free from such conditions.

The respiratory disability rate was found to vary inversely with vital capacity among those exposed to dust, this tendency being most marked among employees under twenty-five years of age.

Of the 570 workers examined, 21, or 3.7 per cent were diagnosed as either positive or suspected cases of pulmonary tuberculosis. In only two cases, however, was the disease active at the time of examination. Neither of these cases appeared to progress as the result of exposure to the dusts. It was evident that all the cases except three appeared to have developed their lesions before they entered the industry and were continuing in their occupations without any evidence that the lesions were progressing.

Although the cement workers experienced a relatively high rate of attacks of acute bronchitis, the disease in chronic form occurred frequently.

With regard to pneumonoconiosis, X-ray films were obtained of the chests of 53 employees. Sixteen of these men had been in the industry less than three years and showed no sign of the disease. Among the other 37, fifteen showed evidence of pneumonoconiosis, though in not one were there any clinical symptoms of the condition.

EXTENSION OF HYGIENIC MEASURES IN THE CEMENT INDUSTRY

The Bureau recommends the following steps to improve the health condition of the industry:

(*a*) The establishment of medical services in the various plants. By taking care not to place men with minor respiratory defects in the most dusty occupations, a great deal of lost time could be avoided. Any such defects developing could be corrected and improved by systematic supervision (notably the plugs formed in the external ear by the combination of cement dust and ear wax).

(*b*) Provision for suitable clothing and hygienic control to effect a reduction in the frequency of disabling attacks of rhuematism and of disability from certain respiratory diseases which are found to occur at a relatively high rate among unsheltered quarry workers: such measures would be particularly helpful in preventing skin diseases among the workers in the finishing end of the mill.

(*c*) Ventilation to reduce the dust counts to an upper limit of ten to twenty million particles of dust, of less than ten microns in longest dimension, per cubic foot of air. This figure is only tentative: it may be too high or too low, but at the present time it appears practicable from an economic standpoint and fairly safe from the point of view of health.

(*d*) With control of the dust problem as suggested, a further check on disabling sickness to see whether or not the reduction of dust content of the air was sufficient, so that it would be possible to determine a more reliable upper limit.

LABORATORY SECTION

G. B. Reed, Ph.D., and A. L. McNabb, B.V.Sc.

A COMBINED OUTFIT FOR THE LABORATORY DIAGNOSIS OF TYPHOID FEVER

LAST year the Department of Health, Ontario, in an endeavor to render more effective service, decided to distribute a combined outfit for the laboratory diagnosis of typhoid fever. This outfit has been found very satisfactory from both a laboratory and a clinical standpoint. It consists of an outer mailing case, an inner tin container lined on the inner side with corrugated paper, a vial of veal glucose broth bearing a rubber cap and a small sterile glass test-tube fitted with a cork. A data sheet is wrapped around the inner tin container which fits in the mailing case. The specimen of blood thus separated into two, one part for the culture and the other for the supply of serum, affords the laboratory an opportunity to do not one but two tests, namely, blood culture and agglutination. That both these tests are necessary and should be done will be evident from what follows.

Conradi isolated the typhoid bacillus from the blood four days before the onset of symptoms. Coleman and Buxton in 1600 examinations recovered B. typhosus from the blood in 75 per cent of the cases examined during the febrile period. 89 per cent of 224 cases gave positive blood culture in the first week, 73 per cent of 484 cases were positive in the second week, 60 per cent of 268 in the third week, 38 per cent of 103 positive in the fourth week and, after the fourth week, in 58 more prolonged cases, 26 per cent were found positive by culture. It is evident that the organism can be isolated with great regularity in the earlier stages of the disease. The percentage of positive cultures may vary somewhat according to the amount of blood drawn, the culture medium used and the different workers making the examinations, but as the bacteria may be isolated in practically all cases during the first week, blood cultures should be made in all suspected cases of typhoid.

The agglutination test (with serum) is positive at some stage of the disease in practically all cases. Ordinarily it is not positive until after the first week, although it may not be positive until convalescence; sometimes, indeed, until after a relapse has occurred. When dried blood specimens are received, even with a drop of 0.2 cc. (size of 5 cent piece), dilutions of only 1:20, 1:40, and 1:80 can be made and specimens of less than 0.2 cc. can only be diluted at 1:40. Not only are the dilutions limited on such specimens but cultures cannot be made. As the agglutination (Widal microscopic test) does not become positive until after the first week, as a rule, the dried blood specimens do not afford the laboratory much opportunity of assisting in the diagnosis of early cases. When blood is collected for culture at the same time as for agglutination and sent to the laboratory in the combined outfit, the laboratory can, in the greater percentage of cases, confirm the diagnosis by isolating the organisms and (or) showing agglutination. The result of a blood culture can be wired to the

physician in the course of one or two days as a rule. A negative report is, too, of much more value. It is the earnest wish of laboratory workers to render all the assistance possible, but only when specimens are properly collected and sent can they give the assistance which they would wish to give.

Preparation of Outfit.

In the preparation of this outfit the culture vial is prepared first. Each vial is plugged with cotton and sterilized by hot sterilization for two hours at 155°F. After cooling, 10 cc. of veal glucose broth is added to each by means of a dispensing apparatus. The vials are then heated in the autoclave for five minutes at 5 lbs. pressure, removed in lots of a dozen in a basket, and placed in a small bath containing heated paraffine. After the vials have been in the heated paraffine for five minutes a rubber cap is placed on each and wired. When all the vials are capped and wired they are autoclaved at 15 lbs. pressure for 15 minutes. The next morning the reaction of the broth is checked by titrating the contents of one vial. Tricresol glue is placed around each cap. The medium is then tested out. Three rabbits are injected intravenously, the first one with a culture of B. typhosus, the second with paratyphoid B. and the third with Br. abortus. Five minutes after the injection, 3 cc. of blood is withdrawn from the heart of each. The needle of the syringe is pushed through the rubber cap of the vial, puncturing it, and the blood is drawn from the syringe into the vial by the negative pressure therein. The vials are then incubated. Twenty-four hours later, blood plates and Endo plates are streaked, colonies fished, and the sugar reaction test and agglutination test done. When shown satisfactory, the culture vials are placed in the inner tin container with the small sterile glass test-tube, the data sheet is wrapped around the tin container and the outfit is placed in the mailing case.

Routine

The routine at the Department of Health Laboratories, upon receiving this outfit containing a blood specimen from a physician, is as follows: The small tube containing the blood sample is centrifuged, the serum is pipetted off, the clot from this tube is planted in dextrose-brain broth, the serum is inactivated at 56°C. for 20 minutes and a microscopic agglutination test set up for B. typhosus, B. paratyphoid A. and B., B. tularense and Br. abortus. The culture vial is incubated at 37°C. Plating is done after 24 hours, 48 hours and 72 hours incubation. Reports of the agglutination are sent within 24 hours of receipt of the specimen and the culture reports follow in the course of a day or two.

During the last month at the laboratories of the Department of Health, Ontario, 32 new specimens were submitted and 9 were positive for typhoid; 5 of these were positive on culture.

Conclusions

When only dried blood specimens are submitted, the laboratory cannot give to physicians the assistance it should give in the diagnosis of typhoid.

Blood cultures should always be taken in suspected cases of typhoid.

In this laboratory the combined outfit has been found the most satisfactory. If the case is typhoid, in the great majority of instances, we are able to report either a positive blood culture or a positive agglutination.

NATIONAL VOLUNTARY HEALTH AGENCIES

THE VICTORIAN ORDER AND THE UNIVERSITIES

RUBY E. HAMILTON, Reg.N.

VERY shortly after the inception of the Order, thirty years ago, training centres were established in practically all the districts to enable graduate nurses to obtain the necessary post-graduate training in district nursing. This policy was in force until 1921 when the Order decided to discontinue its own training centres, and to avail itself of the special training then being offered in public health nursing by the universities of British Columbia, Western Ontario, Toronto, McGill, and Dalhousie.

In 1921 thirty scholarships were granted to graduate nurses in order that they might avail themselves of one of these courses, with the understanding that they give one year's service to the Order upon successful completion of such courses. Since 1921 the Victorian Order has continued to offer scholarships annually upon these conditions, one hundred and twenty-eight having been granted up to the present.

Of passing interest is the fact that of the nurses who have taken courses in public health nursing with the help of Victorian Order scholarships, over one half of the number are still on duty with the Order. Thirteen have married. One is dead. Many are engaged in other types of work.

No compulsion has been exercised in the case of scholarship nurses attending the universities, each nurse being quite free to choose at which university she would register for her course.

All nurses taking the course in public health nursing at the various universities have several weeks of carefully supervised experience with the local Victorian Order branch during their session's work. Even for nurses not contemplating employment with the Order afterwards, this brief experience of the Order's extensive programme provides a valuable insight into bedside nursing in the homes and the opportunities presented therein for constructive health teaching.

Every effort is put forth by the Victorian Order to secure as many fully qualified nurses as possible to carry on its work. In the summer and fall of 1928 twenty-one graduates of public health nursing courses were placed in various districts of the Order throughout Canada.

CORRESPONDENCE

Medical Officer Sued for Damages Wins Appeal

To the Editor:

Jack *vs.* Cranston

In our November issue (p. 542) an account was given of the above action in which judgment was given against the defendant Dr. Cranston M.O.H. of Arnprior. The case was appealed and the appeal judgment follows:

"Appeal by the defendant from the judgment of McEvoy, J. (25th June, 1928), in favour of the plaintiff for the recovery of $250 and County Court costs in an action for damages for injury to the plaintiff's business by the action of the defendant, the Medical Officer of Health of a municipality, in quarantining the plaintiff and his house and premises on account of his son being in it and suffering from smallpox.

The appeal was heard by Mulock, C.J.O., Magee, Hodgins, and Grant, J.J.A.

Mulock, C.J.O., reading the judgment of the Court, said that the plaintiff, living in Arnprior, carried on the business of florist. On the 8th February, a son of the plaintiff came home from school unwell. On the 8th February, the family physician, Dr. Murphy, diagnosed the case as possibly influenza, but on the 15th February pronounced it smallpox and notified the defendant, whereupon the latter proceeded to the plaintiff's house, examined the patient, confirmed Dr. Murphy's diagnosis, and so informed the plaintiff.

Thereupon a conversation took place between the plaintiff and defendant with reference to quarantining the premises and as to the possibility of the plaintiff in the meantime being able to carry on his business.

In dealing with the situation, it became the defendant's duty, within the scope of his authority, to take such action in the public interest as the circumstances seemed to call for.

The plaintiff's household consisted of himself, his wife, a daughter, and two sons, one being the patient. During the ten days preceding the defendant's visit, they had lived and associated together in the family home and had been free to go into the greenhouse and workshop where the plaintiff carried on his business. These buildings were connected with the residence: one could go from it to the kitchen, thence into the workshop, and thence into the greenhouse, and for all practical purposes, within the meaning of the Public Health Act, these various buildings constituted his house. In the workshop, cut flowers were made up into wreaths and sent out to the public, and the plaintiff's wife made up wreaths in the workshop whilst at the same time she was nursing her son. The defendant was of opinion that the disease might be carried by the flowers and he so informed the plaintiff. Various plans were then considered with the view to enabling the plaintiff to carry on his business or to shortening the period of the quarantine, and the defendant told

the plaintiff that before taking action he would consult with his superior officer, Dr. Moloney, the District Officer of Health. In order, however, in the plaintiff's interest, to ameliorate the situation, the defendant first endeavoured to have the patient admitted to the Renfrew hospital, but was unsuccessful. Then he and Dr. Murphy endeavoured to rent a house to which the plaintiff's son might be removed, but the agents for the owner of the house refused to rent it for that purpose. Then he reported the case to Dr. Moloney. The latter in his evidence stated that the defendant inquired of him whether, if certain things were done, he might allow the plaintiff out, to which Moloney answered that he might if "other conditions were all right," one being to isolate the patient in the garage, but that other conditions must also be present, namely that the plaintiff "had to be immune or to have been vaccinated within two years or be held for 14 days or wait until the vaccination had taken." The plaintiff was not shown to be immune and had not been vaccinated within two years.

On the 16th February, the defendant caused to be fixed to the plaintiff's house a card stating that there was smallpox in it.

The plaintiff alleged that the defendant negligently and improperly closed the greenhouse and refused to permit the plaintiff to carry on his business for a period of 28 days, and that the defendant in so doing was not exercising reasonable discretion in the interest of the public but was actuated by malice. In support of this charge, the plaintiff gave evidence as to the action of the defendant in respect of other communicable diseases in his district, and the trial Judge referred to this in his reasons for judgment, saying that the defendant "seems to have found a way for other patients about the same time, if they were bread-winners, to follow their occupations."

The learned trial Judge erred in permitting the admission of evidence as to the defendant's treatment of other cases. The circumstances of these cases may have fully justified the defendant's action in connection with them; and the fact that he may have allowed a bread-winner in some other case to continue in his calling is not evidence that in the present case he should have permitted the plaintiff to carry on his business.

The trial Judge also found that the defendant was actuated by ulterior motives in quarantining the greenhouse and workshop of the plaintiff.

There was no evidence to support this finding. The evidence satisfied the Chief Justice that, in the exercise of the discretionary powers vested in him, the defendant acted in perfect good faith. In causing to be affixed to the plaintiff's house a notice that smallpox was therein, he was discharging an imperative and unqualified duty cast upon him by the statute. There was no justification for the charges made by the plaintiff. The appeal should be allowed with costs and the action dismissed with costs. Appeal allowed."

The Medical Officer of Health of Arnprior is to be congratulated upon the result of his appeal which will undoubtedly have the effect of deterring others in attacking a health officer in an honest endeavour to carry out the law.

J. W. S. McCullough

THE NECESSITY FOR TRAINING FACILITIES FOR SANITARY INSPECTORS

To the Editor,

I have read with interest your special number on the County Health Unit, and, while it seems to me there can be no two opinions on the desirability of the establishment of these units wherever possible, I desire to point out a feature of their organization which seems to be in danger of being overlooked.

Dr. J. G. FitzGerald, under the heading "An interesting Angle", draws attention to the fact that the average physician is not effective as a public health official if he has not had specialized training, and at the same time points out that such training will not be taken up by physicians unless there is some opportunity for such specialized employment. The physicians, however, are in the fortunate position that provision has been made for the necessary special training, so that, whenever there is a possibility of employment, the necessary personnel will be available.

This cannot be said of the sanitary inspector, whose services in the health unit are just as necessary. The entire lack of provision for the training and certification of sanitary inspectors, in the Province of Ontario especially, would lead one to believe these officials were a natural growth, and were not made. Having had many years' experience in public health work—ten of which had to do with administration in county areas—I have not the slightest hesitation in saying that the average "man in the street" is less use as a sanitary inspector than the average physician as a medical health officer, that the sanitary inspector requires special training just as much as the physician, if he is to be effective, and that the training in question should include elementary engineering, building construction, drainage, and drafting, about which even the average medical health officer's knowledge is generally vague, or non-existent. That is to say that the sanitary inspector's training, in some respects, should follow technical lines different from those to which the physician applies himself in training. His qualifications, in fact, should be complementary. This training is especially important in county work, where the average municipal sanitary inspector would find himself very often at a loss. County work requires an all-round knowledge of sanitation and an especially solid grounding in first principles, because the inspector must be able to adapt himself to the varying conditions in his area of administration, and to explain and design the various sanitary conveniences he desires to see installed, as well as to point out the faults in those he condemns.

The list of the duties falling on the sanitary inspector in a health district in the Province of Saskatchewan given in your issue is sufficiently comprehensive to show how absurd is the idea that an untrained man can fill such a position satisfactorily. How can he teach, if he is himself ignorant? Can he give safe leading to the municipal councils he has to meet, if he is deficient in technical training? What does he know of the inspection of meat, food, milk supplies, dairies, water services, drainage, and the general methods for the economical abatement of nuisances? The mere statement of these points should be sufficient to show how ridiculous it is

to expect to pick up suitable sanitary inspectors from the street.

The lack of trained sanitary inspectors in Ontario is due to three things, viz:—the indiscriminate appointment of untrained men, the lack of facilities for the training and examination of candidates for such positions, and to the insecurity of the tenure by the sanitary inspector of his office. If it were laid down that only certificated men could be appointed to such positions, that appointments made were subject to the approval of the provincial health department, and that sanitary inspectors could not be dismissed from their positions without such approval, there would soon be a very great improvement in the administration of public health. Provision for training and testing of candidates would also be necessary.

The position of the sanitary inspector is not exactly that of the physician in his relation to the medical health officer's training. When there is a demand for the latter, trained men will be forthcoming, whereas, in the case of the former the means of filling the demand are absent. I submit that the county health unit will create such a demand, and that measures should be taken at once to prepare for meeting it.

HUGH MCINTYRE,
Provincial Sanitary Inspector.

NEWS AND COMMENTS

P. A. T. SNEATH, M.D., D.P.H.

Montreal Health Survey Report

Copies of the Report may be obtained from the Office of the Health Survey Committee, 3640 University Street, Montreal, P.Q.

New Brunswick

AN intensive diphtheria prevention campaign was inaugurated in March at St. John, being financed by the Provincial Department of Health and the St. John Sub-district Board of Health, with collaboration in the operation of clinics of the St. John Medical Society and the Board of School Trustees. The plan was to hold a clinic in each school of the city and its suburbs where parents could have their children of pre-school age, as well as those of school age, inoculated against diphtheria.

At the opening of the New Brunswick Legislature on the 21st of February, in the Speech from the Throne, the hope was expressed that another institution for the treatment of tuberculosis might be established shortly in this province.

Dr. George G. Melvin, Chief Medical Officer of the Province, was recently honoured by the New Brunswick Division of the Saint John Ambulance Association in having an honorary life membership conferred upon him in recognition of his services in connection with the teaching of first aid and hygiene at the Provincial Normal School during the past ten years.

Miss L. Richardson, Supervisor of Child Welfare Nurses in Saint John, has resumed her duties after four months' absence through illness.

Since the first of January short health talks have been broadcasted

weekly from C.F.B.O., Saint John, under the auspices of the local Board of Health and the Saint John Medical Society. These have been arraged by Dr. Wm. Warwick, Medical Officer of Health for St. John District.

Quebec

IT is planned that about the first of May the ninth county health unit will be inaugurated in this province, covering the adjoining counties of L'Assomption and Montcalm. Dr. L. Dupuis will be in charge assisted by two nurses, Misses P. Roy and J. Deslilets and a sanitary inspector, Mr. O. Morin. These officials are at present under instruction at various county units in the Province in place of the former practice of receiving their training in Ohio.

Three more counties, Chicoutimi, Mégantic and Temiscamingue, have recently voted the necessary funds for the establishment of a health unit within their boundaries. The new units will be under organization during the present year. These, when completed, will make a total of twelve county health units in the province, serving a total of fifteen counties with a population of 435,077.

Three of the medical directors of the county health units will be granted leave in September to take a twelve months' course in public health, probably at the School of Hygiene, University of Toronto. These will be Dr. Alphonse Barabé of the Temiscouta County unit; Dr. G. Choquette of the St. Hyacinthe and Rouville unit; and Dr. L. P. Savoie of the Lake St. John unit. They will be replaced temporarily by the three who are now taking public health training at the University of Toronto or at Johns Hopkins University.

Ontario

THE City Council of Chatham has approved of the appointment of a full-time medical officer of health and have requested the Board of Health to define the duties of this office.

Dr. Stanley J. Keyes has been appointed Medical Officer of Health at Kingston on a part-time basis with an annual stipend of $1,500, filling the vacancy created by the death of Dr. A. R. Williamson.

Dr. D. A. L. Graham, Professor of Medicine in the University of Toronto, has been honoured by Harvard University with the invitation to act temporarily as Physician-in-Chief to the Peter Brent Hospital.

Dr. J. G. FitzGerald, Director of the School of Hygiene and Professor of Hygiene and Preventive Medicine, University of Toronto, on request of the Select Standing Committee of the House of Commons on Industrial and International Relations, attended a sitting of the Committee on March 14th for the purpose of giving evidence on the question of the application of preventive medicine to a national scheme of Unemployment, Sickness and Invalidity Insurance.

Miss Cryderman has resigned as District Superintendent of Nurses in Scarboro district and has accepted the appointment of Supervising Nurse for Ontario with the Victorian Order.

Miss Bessie Hutchison has been appointed District Superintendent of Nurses with the Department of Health, Toronto, in the Moss Park district.

The Committee on Public Health Relations of the Academy of Medicine, Toronto, met on the 21st of February and brought in a resolution following upon a conference with the Home and School and Child Welfare Councils of Toronto. The resolution urges the close co-operation of the Fellows in the demand for examination and immunization of apparently well children and especially those of the pre-school group.

The Hon. Dr. Forbes Godfrey, Minister of Health in this province, has introduced during the present session a bill designed for the protection of granite workers against silicosis and also certain amendments to existing legislation.

Silicosis is a disease which comes under the Workmen's Compensation Act, and in 1928 the granite industry was obliged to pay $65,000 to workmen suffering from the disease. In a recent survey, conducted by the Department of Health, on some ninety granite workers of fifteen or more years' experience, one-third were sufficiently affected with silicosis to warrant compensation, and eleven others were found to have such pulmonary involvement as within two years will bring them within the same category. The operators of this industry are so concerned that they feel that, if some measures are not developed for the control of this hazard to their employees, they will be compelled to carry on their industry elsewhere than in Ontario where compensation is not payable on disabilities arising from silicosis.

An amendment to the Vital Statistics Act has been introduced providing for the issuance of burial permits and other important permits under the Act on Sundays and holidays in cities with a population over 10,000.

Amendments have been put before the House revising and clarifying the Factory, Shop and Office Building Act, which heretofore, owing to the wording, has permitted the employment of persons under the age of 18 years as elevator operators, and also the employment of children under the age of 14 years in factories and shops.

Manitoba

MISS D. E. STREET, late Inspector of Private Maternity and Baby Boarding Homes in the city of Winnipeg, has been transferred from the Division of Public Health Nursing to the Division of Child Welfare, and is now Inspector of Delinquent and Neglected Children with headquarters at Dauphin, Manitoba.

The "Mouth Health Campaign" is well under way. The Province is divided into eighteen districts with local committees in each. These are all to be covered by illustrated lectures and the distribution of literature on the subject. One booklet, of which 50,000 copies have been published by the Department of Health and Public Welfare, was edited by the Manitoba Dental Association. Ten of the more remote districts are being served by free dental clinics, but these are only such as have not the services of a resident or visiting dentist.

The sudden death of Dr. R. M. Cameron, M.C., B.A., M.D., LL.D., the Provincial Coroner, whilst driving his car, is to be noted with much regret. His accomplishments were many, and he was held in high esteem by the members of his own profession and the community at large. The loss to the province by Dr. Cameron's death is most severe and untimely.

Dr. D. L. McCalman, chairman of the Provincial Board of Health, has been appointed to the vacancy of Provincial Coroner occasioned by the death of Dr. Cameron.

The Medical Research Committee of the University of Manitoba have submitted to the Minister of Health and Public Welfare a report on the recent epidemic of poliomyelitis. This is at present in the hands of the printers and should be ready for distribution in the course of a few weeks.

Saskatchewan

THE Hon. Dr. J. H. Ulrich, Minister of Public Health in this province, addressed the Saskatchewan School Trustees Association in the Metropolitan United Church in Regina on the subject of the prevention of disease. Dr. Ulrich invited the co-operation of the trustees in the promotion of measures designed to foster the health of the community, after having brought to their attention the present reduction in preventable diseases, such as diphtheria, typhoid fever and smallpox within the province of Saskatchewan.

It is to be noted that the two new Bills and amendments which are of interest to medical men, were passed at the last session of the Provincial Legislature, and have received the Royal Assent, namely: The Tuberculosis Sanatoria and Hospitals Act, 1929, and The Drugless Practitioners Act, 1929. Two other Bills of similar interest have been placed upon the Statutes, one amending the Union Hospital Act, 1928, and the other amending the Public Health Act, 1924.

British Columbia

Dr. Harold A. White, School Medical Officer was unanimously elected Chairman of the Health Bureau of the Board of Trade of Vancouver for this year.

Through error in the March issue, it was noted that Dr. R. E. Coleman of Vancouver, was about to engage in practice. Dr. Coleman, who has been associated with the Vancouver General Hospital Laboratories for the past thirteen years, during the last four of which he has been Assistant Director, resigned January 1st, 1929, to engage in the work of a private clinical laboratory in Vancouver.

COMING MEETINGS

May 28-31—Ontario Medical Association, Hamilton, Ont.

May 29—Canadian Tuberculosis Association, Hotel Wentworth Arms, Hamilton, Ont.

June 3, 4, 5—Ontario Health Officers Association, Toronto, Ont.

June 18, 19, 20—Canadian Public Health Association, Hotel Windsor, Montreal, Que.

June 21—Canadian Social Hygiene Council, Montreal, Que.

BOOK REVIEWS

D. T. FRASER, B.A., M.B., D.P.H. and R. R. MCCLENAHAN, B.A., M.B., D.P.H.

American Medicine and the People's Health—*Harry H. Moore—D. Appleton and Company, New York.* pp. 647—$5.00.

The private physician of to-day is interested in giving to his patients all that modern science has brought within reach. At the same time, he is insistent upon the principles of the home or office consultation, and the intimate contact with the family life of his patients, his primary purpose being the alleviation and treatment of their physical ailments. Naturally he is desirous of a remuneration that will provide adequately for himself and his family.

There has also arisen a large body of trained workers—physicians, social workers and economists—who have little interest in maintaining the old relationship between physician and patient, but are vitally interested in the prevention and curing of disease in the manner most effective for the community at large and in securing better health and longer life for all the people.

The general public, by reason of widespread education, both formal and through the efforts of public and voluntary health agencies, is demanding that the advances in clinical and preventive medicine and sanitary science be made available at once, regardless of the individual's ability to meet the ever increasing cost of such service.

These three points of view, so fundamentally alike and yet in many ways diverse, have resulted in a somewhat chaotic situation in the broad field of medical service. Mr. Moore—not a physician, but an economist of reputation—has analysed the present situation in the United States, and as medical conditions in Canada are very similar, the analysis may be studied in this country with profit.

The evolution of modern medical service is traced in detail—the rise and development of the modern hospital, clinic and health department under private or state auspices. This is followed by a section entitled "Manifestations of the Maladjustment in Medicine" dealing with such topics as the shortage of physicians, clinics and hospital beds, the inability of the person of moderate income to meet the cost of modern treatment and the resulting development of inferior types of treatment, cults and quackery. A very striking collection of evidence is presented to show that the private physician has failed to keep abreast of the advances in preventive medicine.

In the third section, recent attempts to remedy this maladjustment are discussed. State and federal aid to health work, various forms of health insurance, industrial medicine and the efforts of various medical organizations are dealt with.

The present day tendencies in medicine are then analysed and discussed very keenly. According to the author, the most probable advances will come from state aid to hospitals and clinics, the extension of preventive medicine by the private physician and health agencies, and the provision by either private or public means of adequate health insurance, this, however, remaining independent of medi-

cal service such as is provided in Great Britain. Mr. Moore has no panacea to offer, and for that reason the book is a good one. He presents the data —the reader is free to draw his own conclusions.

For those who are interested in the complex problems of modern medical service, this book provides that wealth of material without which an understanding of the social, economic and political aspects of these problems is impossible.

H. C. Cruikshank.

National Health Series. Funk and Wagnalls, 354 Fourth Avenue, New York, 1928. 28 volumes, flexible fabricoid, average number of pages 70. Per copy thirty cents; thirty-five cents post paid.

Diabetes and Its Treatment. Frederick M. Allen, M.D.

Care of the Mouth and Teeth. Harvey J. Burkhart, D.D.S.

The two brief reviews which follow encourage one to think that the publishers have successfully coped with the very difficult task of providing "the general public with authoritative books on health at low cost. . ." We look forward with interest to the receipt of other volumes for review. Education of the laity in matters of health deserves enthusiastic support and we feel that such a series may go a long way in achieving this purpose.

The first is a brief review, published in connection with a series sponsored by the National Health Council (U.S.A.) and written by an authority on the subject of diabetes. In 96 pages, it contains an excellent summary, and one which can be recommended as a useful guide to be placed in the hands of diabetic patients and lay readers generally. The appendix contains concise tables with regard to diet, and recipes for diabetics.

In "Care of the Mouth and Teeth" the author expresses an enthusiastic, if perhaps optimistic, view of the advantages of thorough and frequent dental care. In the hands of the laity, particularly parents, it may do much to make more popular oral hygiene. The final chapter on the relation of diet to diseases of the teeth is better written than the rest of the book but it is inconsistent in several respects with previous pages. On page 10 it is said that, for the expectant mother, the diet should consist of vegetables, fruit, milk, etc., while meats and other rich foods should be avoided if possible. In the last chapter it is said that the diet should contain an adequate amount of protein, a large proportion of which should be from animal sources, and, on page 45, a diet for an expectant mother allows a liberal amount of meat. The publishers should note that in this and other volumes vitamin is incorrectly spelled with an "e", a form of spelling defunct in scientific literature for several years.

E. W. McHenry

BOOKS RECEIVED

Pediatrics for the General Practitioner. By Harry M. McClanahan, A.M., M.D., Professor of Pediatrics, Emeritus, University of Nebraska; Member of the American Pediatric Society; ex-President of the Nebraska State Medical Association. J. B. Lippincott Company, 201 Unity Bldg., Montreal. Price, $3.50.

Nursing Care of Communicable Diseases. By Miss Mary Elizabeth Pillsbury, B.S., R.N., M.A. Price, $3.50.

Essentials of Medicine. By Charles Phillips Emerson, M.D., late resident physician, The Johns Hopkins Hospital; and Associate in Medicine, The Johns Hopkins University; Professor of Medicine, Indiana University, and Nellie Gates Brown, R.N., Assistant Director, Indiana University Training School for Nurses. J. B. Lippincott Company, 201 Unity Bldg., Montreal. pp. 568, 163 illustrations. Price, $3.50

CURRENT HEALTH LITERATURE

D. T. FRASER, B.A., M.B., D.P.H,

The Value of Immune Sera in the Prophylaxis of Measles—The paper deals with the clinical trial of four well known immune measles sera, namely Tunnicliff's "measles antitoxin (horse serum); Ferry and Fisher's "measles antitoxin (horse serum); Degkwitz's "immume measles serum" (sheep serum); "convalescent measles serum" (human serum). It is manifestly difficult to gauge the prophylactic effect of a serum when one cannot with certainty presage the number of individuals who would have contracted the disease had no attempt at prophylaxis been attempted. However, the infectivity of measles is known to be great which makes the matter of gauging the value of specific means of prevention easier of evaluation. The conclusion reached was that there was no certain evidence to show that Tunnicliff's serum modified the disease; Ferry and Fisher's serum gave no indication of power to confer immunity or to modify the course in any way; Degkwitz's serum did not appear to contain any antibody. Convalescent serum conferred a high (95 per cent apparently protected) degree of protection and greatly lessened the severity in those who contracted measles. The time to give the serum is before the sixth day of exposure. There is some evidence that the disease may be modified even when the serum is given on the eighth day.

GUNN, LANCET, Oct. 6, 1928, p. 690.

Preventive Medicine as Applied to Tuberculous Patients.

Histories from 1,499 white patients 15 years of age and over were procured prior to their admission to a sanatorium. All were diagnosed as having pulmonary tuberculosis. The histories, taken by physicians associated with the institutions, were obtained in considerable detail. Amongst numerous other questions four were asked which related directly to the spread of infection, in order to ascertain something of the extent to which members of the medical profession are practising preventive medicine as far as tuberculosis is concerned. The four questions were as follows: Did physician instruct patient as to disposal of sputum? Use of separate dishes? Washing dishes separately? Sleeping alone? It was illuminating to find that, though 1,496 of these 1,499 patients had consulted anywhere from one to fourteen physicians, forty-two per cent had never been told by any physician how to dispose of the sputum. Forty-seven per cent had had no instruction regarding the washing of dishes separately. Advice to sleep alone was given to sixty-three per cent. If it be conceded that written instruction is desirable as well as oral instruction, then physicians are particularly lax. Only seventeen per cent had received written instruction of any sort. This study would indicate that the medical profession as a whole gives insufficient thought to preventive medicine in so far as tuberculosis is concerned. "One fact is evident, the saturation point has not yet been reached in the need for stressing prevention."

WILLIAM and HILL. J.A.M.A., March 9, 1929, p. 774.